User's Guide

Sprint PCS Connection Card™ by Sierra Wireless (AirCard® 580)

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Welcome to Sprint®

We are committed to bringing you the best wireless technology available, and we built our network right from the start, so no matter where you are on the Nationwide Sprint PCS Network, all your services will work the same.

When it comes to mobile connectivity, the Sprint PCS Connection Card™ offers more freedom than ever before. No wires, no cables, just access to your data when you need it. The power of the Internet and company data is truly at your fingertips.

This guide will familiarize you with our technology and with your new Sprint PCS Connection Card and Sprint PCS Connection Manager℠ software through simple, easy-to-follow instructions.

Welcome and thank you for choosing Sprint.

Introduction to This User's Guide

This User's Guide introduces you to Sprint PCS Service and all the features of your new wireless Sprint PCS Connection Card. It's divided into six sections:

- **Section 1: Sprint PCS Connection Card Basics**
- **Section 2: Installing the Sprint PCS Connection Card**
- **Section 3: Using the Sprint PCS Connection Card**
- **Section 4: Technical Specifications and Regulatory Information**
- **Section 5: Safety Information and Terms & Conditions**
- **Section 6: Glossary and Index**

Throughout the guide, you'll find tips that highlight special shortcuts and timely reminders to help you make the most of your wireless PC Card modem and service.

The Table of Contents and Index will help you locate specific information quickly. The Sprint PCS Connection Manager software includes extensive online help to guide you through the steps to use each feature.

You'll get the most out of your new Sprint PCS Connection Card if you read each section of this document. However, if you'd like to get right to a specific feature, simply go to that page. Follow the instructions in that section and you'll be ready to use your card in no time.

Tip:	You can view this guide online or print it to keep on hand. If you're viewing it online, simply click a topic in the Table of Contents, or a page number in the Index, or any page reference or section reference. The PDF automatically displays the appropriate page.

Sprint PCS Connection Card Basics

Introducing the Sprint PCS Connection Card

In This Section

- **Your Sprint PCS Connection Card**
- **CDMA Networks**
- **Package Contents**
- **About This Guide**

This section introduces the basic features and functions of your Sprint PCS Connection Card, what is included with your card, and how to use this guide to get you started.

Your Sprint PCS Connection Card

The Sierra Wireless AirCard 580 wireless WAN modem is a dual-band wireless PC Card for cellular and North American PCS networks. It enhances the functionality of your mobile computing devices by adding wireless data and 2-way messaging.

This card allows you to do the following (subject to feature availability), without using a wireline phone or network:

- Connect to the Internet, VPN, and corporate networks
- Send and receive email
- Receive short text (Web) messages

Your Sprint PCS Connection Card fits into a Type II PC Card slot (available on most notebook PCs).

CDMA Networks

The Sprint PCS Connection Card operates over a type of wireless network called CDMA (Code Division Multiple Access).

To use the Sprint PCS Connection Card, you need an account that gives you access to the CDMA network. Some features described in this manual may not be available with your account. For details of the services and accounts available, contact Sprint (page 27).

There are CDMA networks that operate in the frequency bands supported by the Sprint PCS Connection Card throughout North America and parts of Latin America, Asia, New Zealand, and Australia. However, each service provider operates a network that covers a limited geographical area within the overall CDMA coverage area.

The fee for service is usually higher when you are roaming (connecting to a network other than Sprint).

Sprint has “roaming” agreements with other service providers, so that you can get service outside of the coverage area of the PCS Vision network. For example, assuming you live in Seattle and travel frequently to Vancouver, you can obtain an account with a service provider in Seattle that has a roaming agreement with a service provider in Vancouver. You would then have local service in Seattle, and roaming service in Vancouver. (There may be additional charges for roaming service.)

CDMA technology provides a variety of connectivity features, depending on your Sprint account:

- 1xEV-DO supports Internet connections with data rates up to 2.4 Mbps (downlink from the network) and 153.6 kbps (uplink to the network). Average data rates are roughly 700 kbps (downlink from the network) and 153.6 kbps (uplink to the network). Actual speed depends on the network conditions.
- 1X supports Internet connections with data rates up to 153.6 kbps (downlink from the network) and 76.8 kbps (uplink to the network). Actual speed depends on the network conditions.

You can set Sprint PCS Connection Manager to automatically establish a Sprint PCS Vision (1xEV-DO or 1X) packet data connection when it starts. If the packet data connection is lost, the connection is restarted automatically. This provides an "always-on" network connection (as far as permitted by network coverage). Once the connection is established, you can open your browser and connect to any web site that is accessible through the Internet, or access other Internet services (such as e-mail).

The connection is "active" when data transmission is occurring. If data transmission stops for a period of time (determined by the network), the connection becomes "dormant"; see page 35.

Tip:	More information about CDMA networks is available on the CDMA Development Group Web site, **www.cdg.org**.

Tip:	For pointers on optimizing your settings, see "How can I optimize my settings to achieve the fastest speeds and conserve data when accessing my corporate network?" on page 71.

Package Contents

Your Sprint PCS Connection Card package contains the following components:

- Sprint PCS Connection Card by Sierra Wireless (Model AirCard 580)
- Getting Started guide
- Installation CD containing the Sprint PCS Connection Manager software and this document
- Warranty card

About This Guide

This user's guide is designed to provide you with all the information you need to install and use your Sprint PCS Connection Card by Sierra Wireless (AirCard 580).

Note:	The comprehensive Getting Started guide that comes with the Sprint PCS Connection Card should be sufficient for most installations.

- **Section 1** (which you are reading) gives you an overview of the Sprint PCS Connection Card (AirCard 580).
- **Section 2** provides step-by-step instructions for installing the Sprint PCS Connection Card and Sprint PCS Connection Manager software (page 13).
- **Section 3** provides step-by-step instructions on using the card (page 29).
- **Section 4** provides electrical, radio frequency, and other parameters of the Sprint PCS Connection Card for those who require technical information, as well as regulatory information (page 77).
- **Section 5** provides important safety and liability information and the Terms and Conditions of use for the Sprint PCS Connection Card (page 91).
- **Section 6** include a glossary (page 107) and index (page 111).

Getting Started With Your Sprint PCS Connection Card

In This Section

- Getting Started
- System Requirements
- The Sprint PCS Connection Card Software
- Care and Maintenance

This section describes the basics of getting started with your Sprint PCS Connection Card, and how to look after your Sprint PCS Connection Card.

Getting Started

CAUTION:	Do not insert the Sprint PCS Connection Card into the PC Card slot until you have installed and run Sprint PCS Connection Manager software, and the software displays “Insert Your Card”.

Before you begin using your AirCard 580 Sprint PCS Connection Card, you must:

1. Check that your notebook has the system requirements listed on page 8 (“System Requirements”).
2. Install the Sprint PCS Connection Manager software, located on the installation CD, onto your Notebook PC. See page 16.
3. After you restart your computer, start Sprint PCS Connection Manager.
4. Insert the Sprint PCS Connection Card; this installs the drivers for the card. See page 20.
5. Activate your Sprint PCS account and configure the Sprint PCS Connection Card to use your account (unless the card has been pre-activated). See page 24.

System Requirements

The AirCard 580 Sprint PCS Connection Card is supported on:

- Windows 2000 with Service Pack 1 or later (Service Pack 4 is recommended), with high encryption support (see “High Encryption Requirements” on page 9)
- Windows XP (Home and Professional versions)

Subject to feature availability, the AirCard software supports Outlook integration, allowing you to read SMS messages in Outlook. To use Outlook integration, you require:

- Windows 2000 or XP, and
- Outlook 2000 or newer (Outlook Express is not supported).

On Windows 2000 and XP, the AirCard software also allows you to monitor connections with a WiFi network adapter.

To install and run the Sprint PCS Connection Card and accompanying Sprint PCS Connection Manager software, you require the system resources shown in the following table.

Card slots	One Type II PCMCIA (PC Card) slot
Communications ports	1 available
Disk drive	CD-ROM
I/O resources	1 IRQ, 40 bytes I/O space
Memory	32 MB
Disk space	20 MB

High Encryption Requirements

Depending on your configuration, an IOTA session may automatically start as part of the installation/activation process. IOTA requires high-security 128-bit encryption, to establish a secure Internet connection to the CDMA network.

If you are running Windows XP, your computer should already include high-security 128-bit encryption.

If you are running Windows 2000 with Internet Explorer

1. Ensure you have installed the Windows 2000 High Encryption Pack: in Internet Explorer, select **Help > About Internet Explorer**.

   If you see a line "Cipher Strength: 128-bit", then the High Encryption Pack is installed. Proceed to step 2.

   If the High Encryption Pack is not installed, download and install it (www.microsoft.com/windows2000/downloads/recommended/encryption).

2. If your version of Internet Explorer is earlier than 5.5, download and install the latest version (www.microsoft.com/windows/ie/downloads).

If you are running Windows 2000 with Netscape Communicator

Ensure your version of Netscape Communicator is 4.7 or higher.

To verify that your version supports 128-bit encryption:

1. In Navigator, select **Help > About Navigator**.

   – or –

   In Netscape Communicator, select **Help > About Communicator**.
2. See the section “Contains encryption software from RSA Data Security, Inc.”

   If the next paragraph states “This version supports U.S. security”, you have 128-bit security.

   If the paragraph states that you have International security, you have 40-bit security. Download a version that supports 128-bit security.

The Sprint PCS Connection Card Software

The Sprint PCS Connection Card comes with the following software:

- Sprint PCS Connection Manager, which allows you to manage the card's actions and monitor your connections.
- The driver software that forms the interface between the Sprint PCS Connection Card and your Windows operating system.

Before you insert the Sprint PCS Connection Card for the first time, you must install and then run the Sprint PCS Connection Manager software. The driver software is installed the first time you insert the card into your computer.

Detailed instructions are provided, beginning on page 16.

Care and Maintenance

As with any electronic device, the Sprint PCS Connection Card must be handled with care to ensure reliable operation. Follow these guidelines in using and storing the card:

- Do not apply adhesive labels to the card, as they may cause the card to become jammed inside the card slot.
- The card should fit easily into your PC slot. Forcing the card into a slot may damage connector pins.
- Protect the card from liquids, dust, and excessive heat.
- When not installed in your computer, store the card in a safe place.
- When storing or transporting your computer, remove the Sprint PCS Connection Card.
- Optimal signal strength is usually obtained when the antenna is perpendicular to the card (see the picture below). The antenna should bend easily at the hinge. Do not forcefully bend the antenna.

- When removing your Sprint PCS Connection Card, always grip it by the sides of the card rather than the top. Never insert or remove the card while holding the antenna, as this action will damage the card.
- Do not use the Sprint PCS Connection Card with a handheld computer; it is only designed for notebook computers running Windows® 2000 or XP.
- If driving or operating a vehicle, do not handle or operate the Sprint PCS Connection Card. Doing so may distract you from properly operating the vehicle. In some states and provinces, operating communication devices while in control of a vehicle is a criminal offense.

Installing the Sprint PCS Connection Card

Installing the Software

In This Section

- **Getting Started**

This section explains how to install your Sprint PCS Connection Manager software. The process may vary, depending on the operating system that you are running.

NOTE:	For comprehensive instructions on installing the Sprint PCS Connection Manager software and activating the card, see the Getting Started guide.

Before you can use your Sprint PCS Connection Card, you must first install the card's software and configure the card for your computer. The installation process consists of:

- **Software installation** - Installing the Sprint PCS Connection Manager software on your computer (described in this section).
- **Card insertion and driver installation** - Starting the Sprint PCS Connection Manager software and inserting the Sprint PCS Connection Card, which automatically installs the drivers on your computer.
- **Card activation and provisioning** - Activating your Sprint PCS account and configuring your Sprint PCS Connection Card to use your account (see "Setting Up Service" on page 23).

CAUTION:	Do not insert the Sprint PCS Connection Card into your PC Card slot before installing the software.

NOTE:	If you're running Windows 2000, you must be logged in with administrative privileges to install the software. If you're running Windows XP, you may require administrative privileges, depending on your XP settings.

1. If the installation CD is not already in your CD-ROM drive, insert it.

The CD should autostart.

If the CD does not autostart, select **Start > Run** and enter **d:\AC580SCM.Msi**, where **d** is the drive letter of your CD-ROM drive.

2. Use the **Next** and **Back** buttons to navigate through the wizard noting the following:
   - You must select **I accept the terms in the license agreement** to indicate your acceptance of the terms of the license agreement to proceed with the installation.
   - Use the default settings for the Destination Folder unless you have special requirements and an advanced understanding of PC configuration. (The Destination Folder dictates where the software is installed.)
   - To install the optimization software (optional; this software can increase your perceived system speed), in the Installation Options window, select the check box for the **Optimization Client**.
3. At the end of the installation, you will be prompted to restart your computer. Ensure you save your work in other applications, if applicable.
4. When the "Installation Complete!" window is displayed, click **Restart**, to restart Windows.
5. When Windows has restarted, run Sprint PCS Connection Manager (double-click the program's icon on your desktop).
6. Once Sprint PCS Connection Manager displays "Insert Your Card", insert the card into the PC Card slot (see page 20).

Windows will detect the card and install the drivers for it. This may take a few minutes. Once completed, Sprint PCS Connection Manager should display "Disconnected".

NOTE:	If you have an older version of Sprint PCS Connection Manager and are experiencing problems during installation, use the Add/Remove Programs Utility (see page 47) to remove the older version of Sprint PCS Connection Manager. Then reinstall the current version of Sprint PCS Connection Manager from the Installation CD.

Proceed to configure the Sprint PCS Connection Card to use your account (if it was not pre-activated); see "Activating and Using Sprint PCS Service" on page 24. If your card is pre-activated, then you are ready to connect to the network; to learn about using the software, proceed to "Your Sprint PCS Connection Card: The Basics" on page 31.

Inserting and Removing the Sprint PCS Connection Card

In This Section

- **Inserting the Sprint PCS Connection Card**
- **Removing the Sprint PCS Connection Card**

This section describes how to properly insert and remove the Sprint PCS Connection Card from your PC.

Inserting the Sprint PCS Connection Card

To insert the Sprint PCS Connection Card into a notebook:

1. With the picture label facing up, insert the network card into the PC Card slot.

2. Raise the antenna so that it is fully extended and pointed up at a 90° angle.

When you insert the AirCard, the following should occur:

- The first time the card is inserted, Windows detects the card and installs the drivers for it. This may take a few minutes. Once completed, Sprint PCS Connection Manager should display “Disconnected”. To connect to the network, click **GO**.
- If sound effects are enabled, the PC beeps.
- The PC Card icon appears in the system tray, if it is not already displayed for another card, (and unless the feature has been disabled).

Windows XP Windows 2000

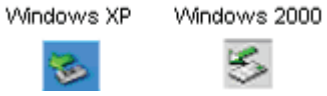
The Sprint PCS Connection Card is powered as soon as you insert it.

Removing the Sprint PCS Connection Card

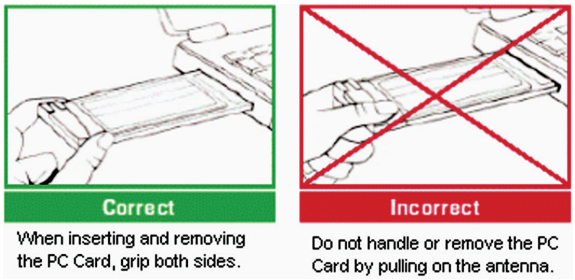
NOTE:	Do not pull the Sprint PCS Connection Card out by the antenna.

To remove the Sprint PCS Connection Card:

1. Exit Sprint PCS Connection Manager if it is open.
2. Click the PC Card icon in the system tray to display the option to stop the card.



3. Click:
   Windows XP: "**Safely remove Lucent USB OpenHost Controller**"
   Windows 2000: "**Stop Standard OpenHCD PCI to USB Host Controller**"
4. If a dialog box appears notifying you that it is safe to remove the card, click **OK**, or click the Close button .
5. Use the ejector to remove the Sprint PCS Connection Card from the slot. Do not pull the Sprint PCS Connection Card out by the antenna.


Correct
When inserting and removing the PC Card, grip both sides.
Incorrect
Do not handle or remove the PC Card by pulling on the antenna.

Setting Up Service

In This Section

- **Activating and Using Sprint PCS Service**
- **Preactivated Card**
- **Non-preactivated Card: Activation Wizard**
- **Data Provisioning (IOTA)**

This section walks you through setting up service for your Sprint PCS Connection Card, after you have installed the Sprint PCS Connection Manager software (page 16) and inserted the Sprint PCS Connection Card.

Activating and Using Sprint PCS Service

Before using your Sprint PCS Connection Card, you must have a Sprint PCS wireless network account set up. The process of setting up an account is called activation.

When the Sprint PCS Connection Card is inserted and Sprint PCS Connection Manager is started, it will detect if the card has been configured with an account ("preactivated"). If it has not, the Activation Wizard starts automatically.

Preactivated Card

If you received your Sprint PCS Connection Card in the mail or purchased it at a Sprint Store, it probably has already been activated.

To prevent unauthorized use, preactivated cards may have been set with a security lock. If so, Sprint PCS Connection Manager displays the message "Card Locked".

To unlock your Sprint PCS Connection Card:

1. Click the icon. (If is not visible, click to expand Sprint PCS Connection Manager.)
2. In the Enter User Lock Code window, enter your four-digit lock code, and click **OK**. For security purposes, the code is not visible as you type.

Tip:	If you can't recall your lock code, try using the last four digits of either your Social Security number or Sprint PCS Phone Number, or try 0000. If none of these work, call Sprint Customer Service at 1-888-211-4PCS (4727).

After unlocking your preactivated Sprint PCS Connection Card, it is ready for use. See "Using the Sprint PCS Connection Card" on page 29.

Non-preactivated Card: Activation Wizard

If your card is not preactivated, please see the Getting Started guide included with your card.

If your Sprint PCS Connection Card is not preactivated, Sprint PCS Connection Manager automatically detects that no account has been configured when you run it for the first time. It then runs the Activation Wizard to guide you through the activation and configuration process.

To set up your account, you will be contacting Sprint.

Before you call Sprint, have these things ready:

- Your Sprint PCS Connection Card
- Your Social Security number or Tax ID number
- Your billing address
- Your driver's license number
- The city and state where the device will be primarily used
- A pen and paper to write down your account information. Your package includes a printed Getting Started guide, where you can record this information.

When you call Sprint, Sprint Customer Service will help you select your service plan and guide you through the activation process. They will also provide you with this information:

- Your card's activation code (gives you access to configure the account)
- Your card's phone number (MDN)
- Your card's MSID (Mobile System ID) code, used for WLNP (Wireless Local Number Portability) and to determine whether you are "home" or "roaming"

Stepping Through the Activation Wizard

If the Activation Wizard has not started automatically:

1. Ensure the Sprint PCS Connection Card is inserted, and Sprint PCS Connection Manager is running. If Sprint PCS Connection Manager is not running, select **Start > Programs > Sprint > Sprint PCS Connection Manager (AirCard 580)**.

   Sprint PCS Connection Manager should display "Disconnected".
2. If Sprint PCS Connection Manager displays "Card Locked", unlock the card (page 45).
3. Start the Activation Wizard: select **MENU > Settings > Sprint PCS Vision - Sierra Wireless > Activation Wizard**.

Once the Activation Wizard is running:

1. To begin activation of the Sprint PCS Connection Card, click **Next**.
2. Call Sprint at the phone number listed on the screen. Click **Next**.
3. Give the account representative your ESN (Electronic Serial Number) number as displayed by the Activation Wizard. Enter the activation code provided by the account representative and click **Next**.

4. Enter the phone number (no spaces or hyphens) and, if not the same value as the phone number, the MSID value given by the account representative, then click **Next**.

   A confirmation window will be displayed.

5. Confirm with the service representative that the information is correct. If it is, click **Yes**. If it isn't, click **No**, and re-enter the information.
6. Click **Finish** to close the Activation Wizard.
7. Wait a few moments for the Sprint PCS Connection Card to automatically reset. Depending on your configuration, an IOTA session may automatically start ("Data Provisioning [IOTA]", below).

After Sprint sets up your account on the network, your Sprint PCS Connection Card should be configured and ready for use.

Data Provisioning (IOTA)

IOTA (Internet Over The Air), supported by some service providers (including Sprint), is an automated feature to perform account setup for you by making a connection to the CDMA network and using a secure Internet connection to download account parameters to your Sprint PCS Connection Card. To make this secure connection, IOTA requires that your computer support 128-bit encryption (see "High Encryption Requirements" on page 9).

Depending on your configuration, the first time Sprint PCS Connection Manager detects the activated card, an IOTA session may automatically start, during which status messages ("Updating User Profile...") are displayed.

After this first activation, there may be changes to your account that require updating the parameters in the Sprint PCS Connection Card. If this is needed:

1. In the Device Info & Diagnostics window (page 64), click **Update Data Profile**. (If this button is not displayed, eject and re-insert the card.)
2. In the IOTA Provisioning window, click **Yes**.

Your Sprint PCS Connection Card then retrieves the updates to your data services account.

Once the updates are successful, Sprint PCS Connection Manager is displayed ("Disconnected"). You can now connect to the network.

Getting Help

In This Section

- **Visit Our Web Site**
- **Contact Sprint Customer Service**
- **Troubleshooting**

This section describes where you can find more information on Sprint PCS Services, options, and troubleshooting problems you have encountered.

Visit Our Web Site

Stop by www.sprint.com and log on to get up-to-date information on Sprint PCS Services, options and more.

You can also:

- Review coverage maps
- Access your account information
- Add additional options to your service plan
- Check out frequently asked questions
- And more

Contact Sprint Customer Service

You can reach Sprint Customer Service by:

- Logging on to your account at www.sprint.com
- Calling us toll-free at **1-888-211-4PCS (4727)**
- Writing to us at Sprint Customer Service, P.O. Box 8077, London, KY 40742

Troubleshooting

The Online Help for Sprint PCS Connection Manager (see page 43) includes descriptions of most common error messages. Look in the Contents under Troubleshooting.

For help with other problems:

- See “Troubleshooting Tips” on page 73.
- Consult the Sierra Wireless web site at www.sierrawireless.com, where you will find an extensive knowledge base that can be searched to address most problems, and the Installation Troubleshooting wizard (in the Support & Download section).
- Contact Sprint as noted above.

Using the Sprint PCS Connection Card

Your Sprint PCS Connection Card: The Basics

In This Section

- Sprint PCS Connection Manager
- Starting Sprint PCS Connection Manager
- Start Sprint PCS Connection Manager Automatically
- Sprint PCS Connection Manager Window
- Connection States
- System Tray Connection States
- Determining the Type of Coverage
- Controlling the Sprint PCS Connection Manager Window
- Launching a Sprint PCS Vision Connection
- Viewing the Amount of Data Transferred
- Ending a Connection
- Online Help
- Displaying Your Phone Number
- Security
- Accessing Links
- Uninstalling the Sprint PCS Connection Manager Software

Your Sprint PCS Connection Card is packed with features that simplify your life and expand your ability to stay connected to the people and information that are important to you. This section guides you through the basic features of your Sprint PCS Connection Card.

Sprint PCS Connection Manager

Sprint PCS Connection Manager is the application that allows you to manage and monitor the high-speed Sprint PCS Vision (1X and 1xEV-DO) connection to the Sprint PCS Vision network. You use Sprint PCS Connection Manager to:

- Determine your signal strength and other network connection parameters (page 33)
- Initiate data calls (page 41)
- View call statistics (page 62) and messages (page 35)
- Customize features and options (page 54)

Starting Sprint PCS Connection Manager

To start Sprint PCS Connection Manager:

1. Ensure the Sprint PCS Connection Card is inserted into the PC Card slot of your computer.
2. Adjust the antenna: optimal signal strength is usually obtained when the antenna is perpendicular to the card.

3. Double-click the program's icon on your desktop, or:

   (Windows XP:) From the **Start** menu on your Windows desktop, select **Sprint PCS Connection Manager (AirCard 580)**, or select **All Programs > Sprint > Sprint PCS Connection Manager (AirCard 580)**

   (Windows 2000:) From the **Start** menu on your Windows desktop, select **Programs > Sprint > Sprint PCS Connection Manager (AirCard 580)**

When Sprint PCS Connection Manager is running, it places an icon in the system tray, usually at the right end of the taskbar. (See page 38.)

Tip:	You can also set Sprint PCS Connection Manager to launch automatically whenever Windows starts (page 33).

Start Sprint PCS Connection Manager Automatically

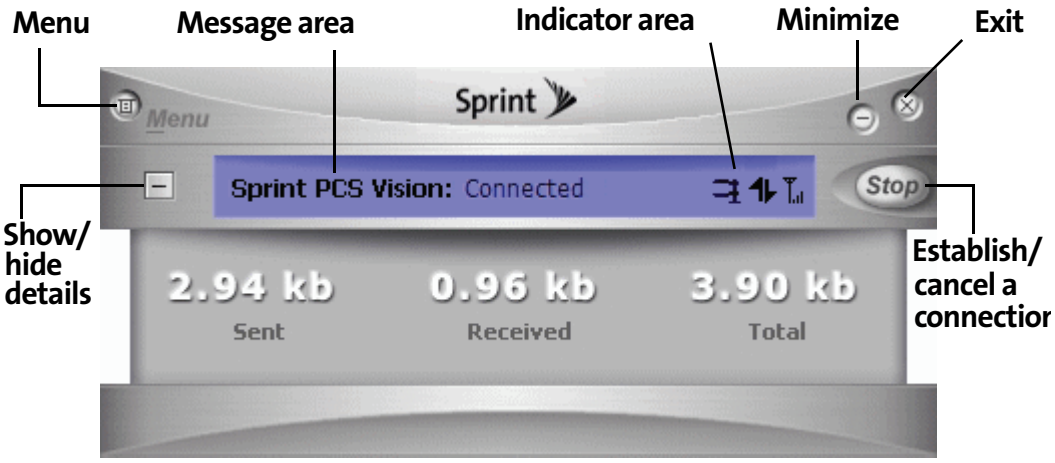
To set Sprint PCS Connection Manager to start automatically (when Windows starts):

- From the General option of the Settings window (page 55), select **Launch when Windows starts**.

Note:	Changes to this setting apply only after you restart Windows.

Tip:	You can also set the Sprint PCS Vision connection to launch automatically whenever available (see "**GO automatically when ready**" on page 58). These two settings can provide an "always-on" connection, as long as you have Sprint PCS Vision network coverage.

Sprint PCS Connection Manager Window



The text (for example, "Connected" shown in the screenshot above) and icon(s) in Sprint PCS Connection Manager indicate the connection state (page 35), and also (only when Disconnected) the lock state (page 43) (locked or unlocked).

Sprint PCS Connection Manager may display, depending on the connection state, some of the following icons:

	CDMA network signal strength, indicated by the number of bars. The ToolTip indicates the type of coverage you have (for example, 1X or 1xEV-DO), and the signal strength, in dBm.
	1xEV-DO transmit/receive icon: a data connection is active. The up arrow is black and animated (for example:) when data is being transmitted to the network. The down arrow is black and animated (for example:) when data is being received from the network.
	1xEV-DO transmit/receive icon: the data connection is dormant. The up and down arrows are gray.
	1X transmit/receive icon: a data connection is active. The up arrow is black and animated when data is being transmitted to the network. The down arrow is black and animated when data is being received from the network.
	1X transmit/receive icon: the data connection is dormant. The up and down arrows are gray.
	Data optimization/compression is in use (page 59).

Sprint PCS Connection Manager has the following buttons and text:

- **Menu** or the button — Displays the Sprint PCS Connection Manager menu (page 50).
- — Expands Sprint PCS Connection Manager and displays the amount of data transferred (when Connected), or, when Disconnected, the lock status of your card (locked or unlocked).
- (Displayed when Sprint PCS Connection Manager is expanded) — Hides the amount of data transferred and the lock status of your card.
- (upper right corner of the window) — Minimizes Sprint PCS Connection Manager (page 40).

- — Exits Sprint PCS Connection Manager.
- **GO** — Starts the Sprint PCS Vision connection (page 41).
- **Stop** — Ends the connection. (Visible when a connection is established.)

Connection States

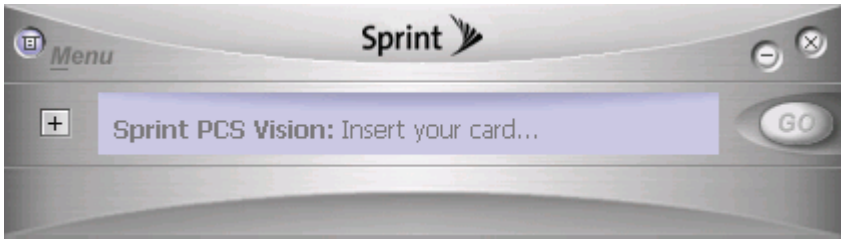
Sprint PCS Connection Manager can display various connection/interaction states, including:

- Insert Your Card
- Initializing
- Updating User Profile... (See “Data Provisioning [IOTA] on page 26.)
- Searching for service...
- Disconnected
- Connecting
- Authenticating
- Connected
- Card Locked

Note:	The system tray icon also indicates the connection state (page 16).

Insert Your Card

Sprint PCS Connection Manager did not detect a Sprint PCS Connection Card. The **GO** button is unavailable.



Insert the Sprint PCS Connection Card. If it is already inserted, eject and reinsert it; wait a few moments. If this message is still displayed, uninstall (page 47) and reinstall Sprint PCS Connection Manager, or contact Sprint (page 27).

Initializing

Sprint PCS Connection Manager is attempting to establish communication with the Sprint PCS Connection Card.

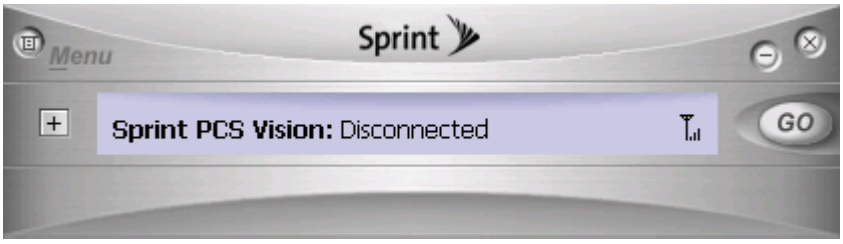
Searching for service...

Sprint PCS Connection Manager is determining whether 1X/1xEV-DO service is available.

Disconnected

Sprint PCS Connection Manager is ready to make a connection to the network. The GO button is available, and the signal strength icon and, if Sprint PCS Connection Manager is expanded, the lock icon (or) are visible.

To connect to the network, click **GO**.



Connecting

Sprint PCS Connection Manager is establishing a connection to the network.

Authenticating

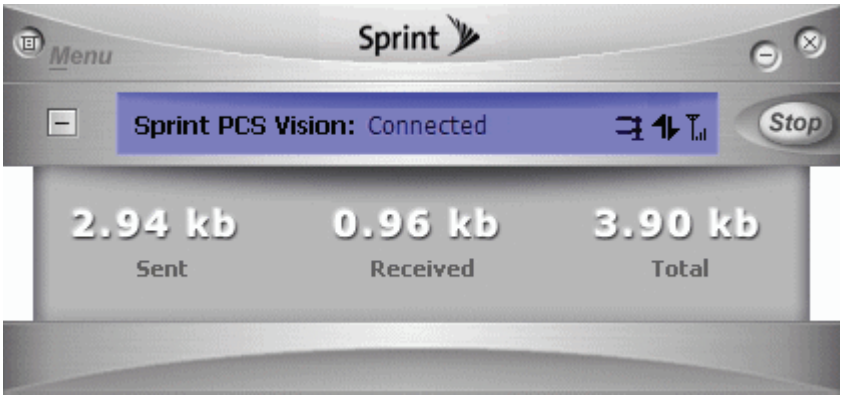
The network is authenticating your user name and password.

Connected

The connection is established. In addition to the signal strength icon, the transmit/receive icon (for 1xEV-DO; for 1X) is also displayed. If image optimization/compression is in use, is also displayed (page 59).

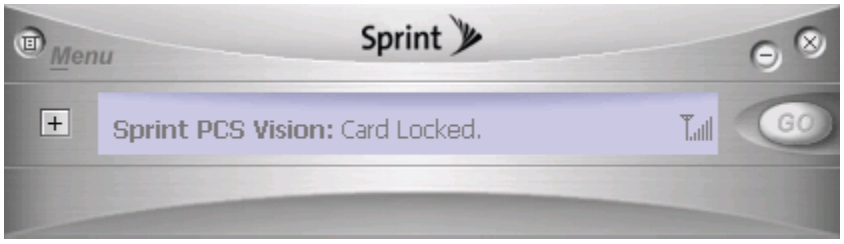
If you expand Sprint PCS Connection Manager ( ), the amount of data transferred is shown. (See note on page 42.)

To end the connection, click **Stop**.



Card Locked

The card is locked. To use most of the features, you must unlock the card (page 45).



System Tray Connection States

Sprint PCS Connection Manager has an associated icon that appears in the system tray. The icon reflects the connection state.

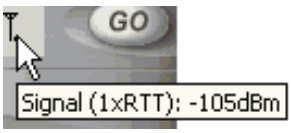
	Sprint PCS Connection Manager is not ready to connect to the network.
	Disconnected — Sprint PCS Connection Manager is ready to make a connection to the network (page 36), or **Connecting** — Sprint PCS Connection Manager is making a connection to the network (page 36).
	Connected — Connection is established to the network; data transfer is in progress (page 37).
	Dormant — Connection is established, but no data transfer is taking place.

Clicking the system tray icon toggles between displaying and minimizing Sprint PCS Connection Manager.

Right-clicking the icon displays the shortcut menu (page 52).

Determining the Type of Coverage

The ToolTip over the signal strength indicator indicates the type of coverage you have (for example, 1X [synonym of 1xRTT] or 1xEV-DO):



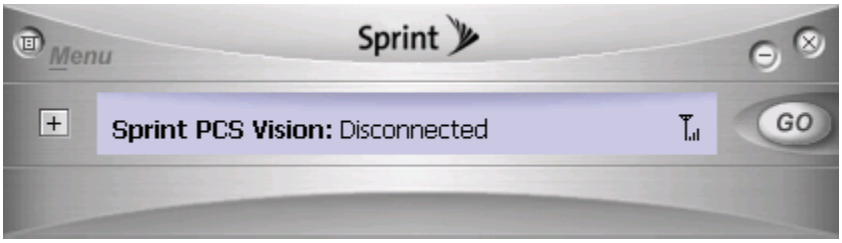
Tip:	The type of coverage is also displayed in the lower left part of the Device Info & Diagnostics window under “Network Service” (page 65).

Controlling the Sprint PCS Connection Manager Window

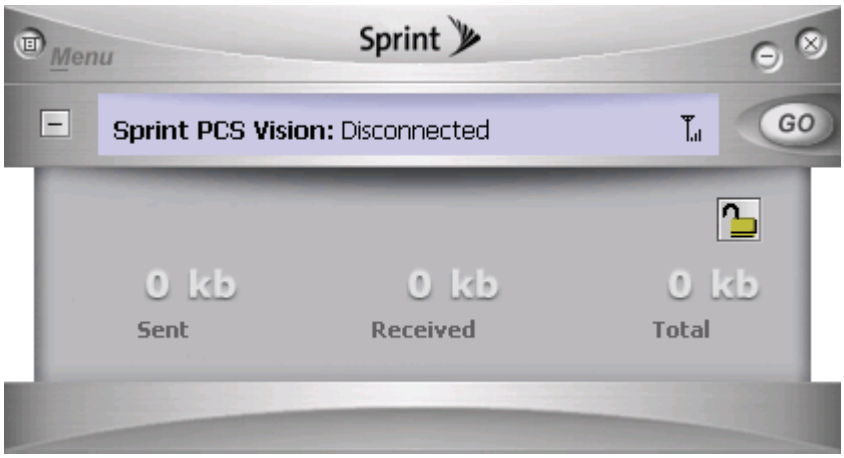
Expanding Sprint PCS Connection Manager

Sprint PCS Connection Manager has two views: expanded, and non-expanded.

Non-expanded view:



To expand Sprint PCS Connection Manager, click [+]. Sprint PCS Connection Manager now also displays the amount of data transferred during the current connection, and (only when Disconnected) the lock state of the card (locked or unlocked).



To change back to non-expanded view, click [−].

Minimizing Sprint PCS Connection Manager

To save space on your screen for other programs, you can minimize the Sprint PCS Connection Manager:

- Click — (in the upper right corner of Sprint PCS Connection Manager).

  – or –

  Click the Sprint PCS Connection Manager icon in the system tray.

  – or –

  Right-click the system tray icon and select **Close Sprint PCS Connection Manager**.

You can use the system tray icon to monitor the connection state (page 38).

Tip:	You can set Sprint PCS Connection Manager to start minimized. (See "**Start in system tray**" on page 56.)

Tip:	You can prevent Sprint PCS Connection Manager from minimizing by setting "Always on top" (page 56).

Restoring Sprint PCS Connection Manager

To restore Sprint PCS Connection Manager when it is minimized:

- Click the Sprint PCS Connection Manager icon in the system tray.

  – or –

  Right-click the system tray icon and select **Open Sprint PCS Connection Manager**.

Exiting Sprint PCS Connection Manager

To exit Sprint PCS Connection Manager:

- In Sprint PCS Connection Manager, click **Menu > Exit**, or click the button,

  – or –

  Right-click the Sprint PCS Connection Manager icon in the system tray and, from the shortcut menu, select **Exit**.

If a connection is in progress, a window is displayed asking whether you want to disconnect the call. To end the connection and close Sprint PCS Connection Manager, you must click **Yes**.

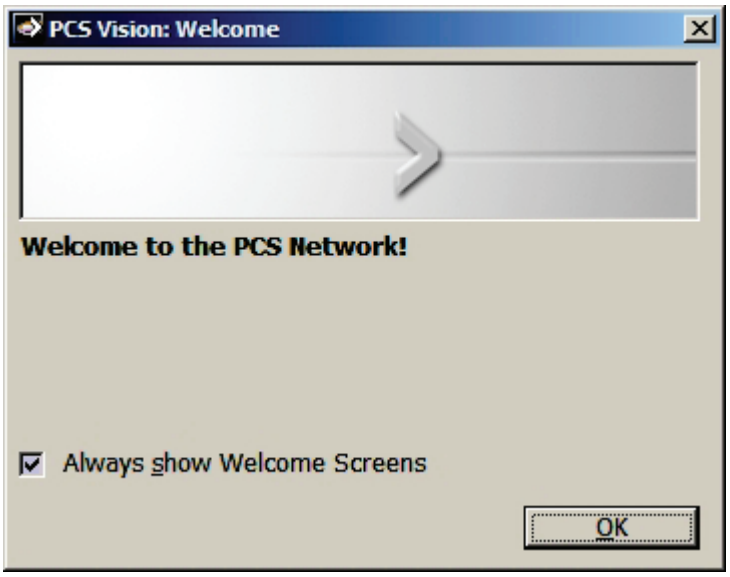
Sprint PCS Connection Manager exits, and the Sprint PCS Connection Manager icon disappears from the system tray.

Launching a Sprint PCS Vision Connection

To launch a Sprint PCS Vision connection:

- In Sprint PCS Connection Manager, click **GO**. (If **GO** is unavailable, see "GO Button Is Unavailable" on page 75.)

When the connection is successfully established, the Sprint PCS Network welcome screen appears (unless you have turned off the display of the welcome screens; see "**Always show Welcome screens**" on page 58).



Sprint PCS Connection Manager displays "Connected" (page 37).

You can now use your web browser, perform data transfers, and so on.

To monitor the status of the connection, you can use the text (page 35) and icons (page 33) in Sprint PCS Connection Manager, and the icon in the system tray (page 38). You can also view the amount of data transferred (page 42).

Tip:	You can also set the Sprint PCS Vision connection to launch automatically whenever available (see "**GO automatically when ready**" on page 58). If you also set Sprint PCS Connection Manager to launch automatically whenever Windows starts (see "**Launch when Windows starts**" on page 56), this can provide an "always-on" connection, as long as you have Sprint PCS Vision network coverage.

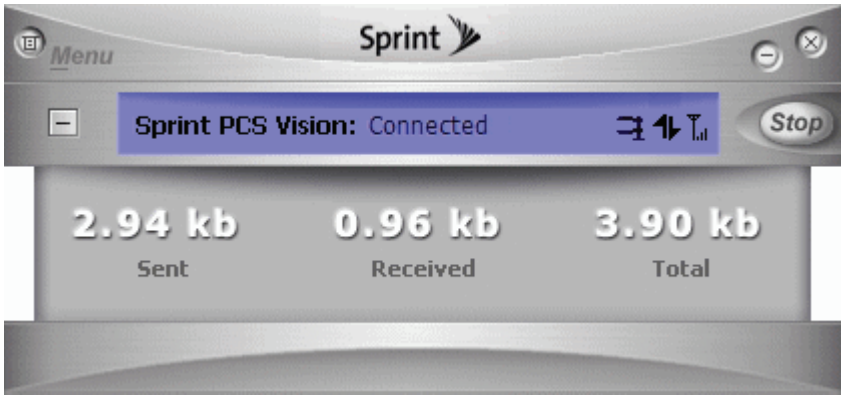
Viewing the Amount of Data Transferred

Note:	Even though the number of bytes sent/received is displayed while the connection is running, this is not necessarily the actual amount of data being transmitted across the network. **Do not use this information to estimate billing.**

To view the number of bytes sent/received during the current connection:

- If Sprint PCS Connection Manager is not expanded, click the + button.

The number of bytes sent/received during the current connection is displayed, in three significant digits (such as 581 kb, 1.23 Mb, 1.81 Mb).



Once you end the connection, the figures are set to zero.

To hide the part of Sprint PCS Connection Manager that displays this information, click the − button.

Ending a Connection

To end a connection:

- In Sprint PCS Connection Manager, click **STOP**.

If you exit Sprint PCS Connection Manager while a connection is in progress, a window is displayed asking whether you want to disconnect the call. By clicking **Yes**, you can end the connection and exit Sprint PCS Connection Manager. (See “Exiting Sprint PCS Connection Manager” on page 40.)

Online Help

Sprint PCS Connection Manager includes extensive online help to provide operating hints and step by step instructions for getting the most from your Sprint PCS Connection Card.

You can access online help in several ways:

- Press <F1> in any window.
- From the Sprint PCS Connection Manager window, select **MENU > Help**.
- Right-click the system tray icon and select **Help**.
- Click the **Help** button available in many windows.

The help file has a table of contents and an index.

Displaying Your Phone Number

You can view your phone number in the Device Info & Diagnostics window (**Menu > Device Info & Diagnostics**).

Security

When Disconnected, you can lock your Sprint PCS Connection Card so that others cannot use the card and account. A four-digit lock code is needed to unlock the card.

You can set the Sprint PCS Connection Card to lock:

- Whenever Sprint PCS Connection Manager is started (page 45), or
- Immediately (without restarting Sprint PCS Connection Manager) - useful if you are lending your Sprint PCS Connection Card and PC or leaving it for a short time (page 44).

Initial Lock Code

The initial lock code value is determined by your service provider.

For service provider configurations that do not require account activation, a default lock code is set at the factory to a value determined by the service provider. For assistance, contact Sprint (page 27).

Configurations that use the Activation Wizard set the initial lock code to the last four digits of your account phone number whenever a new phone number is activated.

After activation, you can change the lock code (page 46) from the initial value to any four-digit code you choose. (See "Warning Regarding the Lock Code" below.)

Note:	The security lock code is reset to the last four digits of the phone number whenever an account is activated. This may change a custom value you have set.

Warning Regarding the Lock Code

If you lock the Sprint PCS Connection Card and forget the lock code, you will not be able to use the card until you receive assistance from Sprint.

Behavior When the Sprint PCS Connection Card Is Locked

When the Sprint PCS Connection Card is locked, you can:

- Unlock the card

When the card is locked, you cannot:

- Make data connections (the **GO** button is unavailable)
- Run the Activation Wizard

Lock the Card

Warning:	If you forget the lock code, you will not be able to use the card until you receive assistance from Sprint.

To lock the Sprint PCS Connection Card immediately:

1. End any active connection. (You can lock the card only when Disconnected - page 36.)
2. If Sprint PCS Connection Manager is not expanded, click to expand it.
3. Click the icon.
4. In the Enter User Lock Code window, enter the lock code, and click **OK**.

When the card is locked, Sprint PCS Connection Manager displays "Card Locked", and the lock icon is now . The **GO** button is unavailable.

Tip:	You can also set the card to be locked upon startup of Sprint PCS Connection Manager, as described next.

Lock Upon Startup of Sprint PCS Connection Manager

To set the Sprint PCS Connection Card to lock as soon as Sprint PCS Connection Manager starts up:

1. End any active connection. (You can lock the card only when Disconnected - page 36.)
2. If Sprint PCS Connection Manager is not expanded, click to expand it.
3. Click the lock icon (or , depending on the current lock status).
4. In the Enter User Lock Code window, enter the lock code, and select **Relock card when program exits**.
5. Click **OK**.

Note:	This setting takes effect only after you exit and restart Sprint PCS Connection Manager.

Unlock the Card

When locked, Sprint PCS Connection Manager displays “Card Locked”, and the lock icon is .

To unlock the card:

1. If Sprint PCS Connection Manager is not expanded, click to expand it.
2. Click the icon.
3. In the Enter User Lock Code window, enter the lock code, and click **OK**.

When the card is unlocked, Sprint PCS Connection Manager no longer displays “Card Locked”, and the lock icon is .

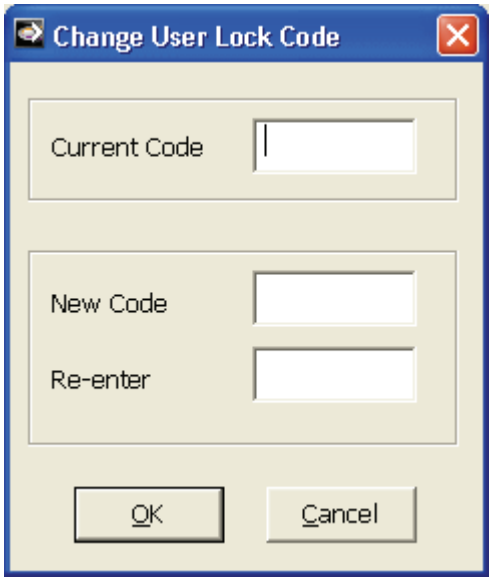
Change the Lock Code

Warning:	If you forget the lock code, you will not be able to use the card until you receive assistance from Sprint.

To change the lock code:

1. In the Sprint PCS Vision settings window, click **User Lock Change**.

   The Change User Lock Code window is displayed:



2. Enter the current lock code.
3. Enter a new four-digit lock code.
4. Enter the new lock code for confirmation.
5. Click **OK**.

Accessing Links

For your convenience, Sprint PCS Connection Manager includes links to Sprint PCS products and services. To access these links:

1. In Sprint PCS Connection Manager, click **Menu**.
2. Select **Links**.

Note:	From the **Links** menu you cannot add or remove links. To do this, use your Web browser.

Uninstalling the Sprint PCS Connection Manager Software

To remove the Sprint PCS Connection Manager software from your computer, use the Add/Remove Programs Utility built-in to your Windows Operating System.

1. Exit Sprint PCS Connection Manager (page 40).
2. Eject the Sprint PCS Connection Card. (See “Removing the Sprint PCS Connection Card” on page 21.)
3. Go to **Start > Settings > Control Panel** and select **Add/Remove Programs**.

   The Windows Add/Remove Programs utility will start. Be sure the Change or Remove Programs feature is selected (default).
4. From the list, select **Sprint PCS Connection Manager**, and click **Remove.**

Menu Options

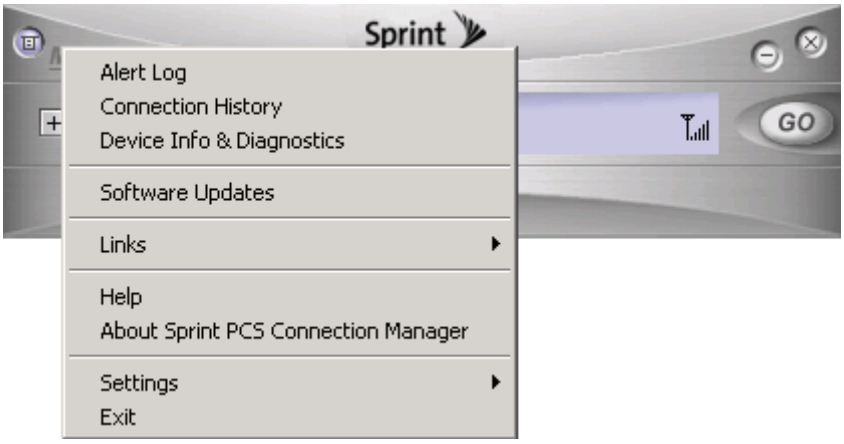
In This Section

- **Sprint PCS Connection Manager Menu**
- **System Tray Menu**

This chapter describes each menu option you may encounter while using your Sprint PCS Connection Card and the Sprint PCS Connection Manager software.

Sprint PCS Connection Manager Menu

Clicking **Menu** or the button, located in the upper left corner of Sprint PCS Connection Manager, displays the Sprint PCS Connection Manager menu.



Note:	Depending on your configuration and settings, not all menu options as described here might be shown or enabled.

Tip:	You can also display the menu by positioning the cursor over the **Menu** text or button and then pressing the spacebar or Enter key on your keyboard. To hide the menu, press **Esc**, or click outside of the menu.

The following table describes the menu options:

Menu Item	Description
Alert Log	View a record of all alerts (for example, connection errors) that have been received while establishing and maintaining connections. See “Viewing Alerts” on page 63.
Connection History	View a record of connections established using your Sprint PCS Connection Card. (Unavailable if the Connection History is empty, or if **Keep Connection History** [page 56] is not selected.) See “Viewing the Connection History” on page 62.

Menu Item	Description
Device Info & Diagnostics	View information about your Sprint PCS Connection Card, and run diagnostic tests. See “Running Diagnostics” on page 64.
Software Updates	Retrieve updates for Sprint PCS Connection Manager and your Sprint PCS Connection Card. See “Updating the Software” on page 66.
Links	Access links to Sprint PCS products and services. See “Accessing Links” on page 46.
Help	Display the online Help, which has operating hints and step by step instructions for getting the most from your Sprint PCS Connection Card. See “Online Help” on page 43.
About Sprint PCS Connection Manager	Display brief information about the Sprint PCS Connection Manager software. To close the window, click anywhere inside it. See “About Sprint PCS Connection Manager” on page 67.
Settings	Change the settings for Sprint PCS Connection Manager. Contains submenu items: • **General**: See “General Settings” on page 55. • **Sprint PCS Vision - Sierra Wireless**: See “Sprint PCS Vision Settings” on page 57. • **Optimization**: See “Optimization Settings” on page 59.
Exit	Exits Sprint PCS Connection Manager.

System Tray Menu

When you right-click the system tray icon , a shortcut menu is displayed:

The following table describes the menu options:

Menu Item	Description
Open/Close Sprint PCS Connection Manager	Minimizes Sprint PCS Connection Manager (**Close**), or restores (**Open**) if Sprint PCS Connection Manager is minimized.
Help	Display the online Help.
About Sprint PCS Connection Manager	Display brief information about the Sprint PCS Connection Manager software. To close the window, click anywhere inside it.
Exit	Exits Sprint PCS Connection Manager.

Changing the Settings of Sprint PCS Connection Manager

In This Section

- Settings Window
- General Settings
- Sprint PCS Vision Settings
- Optimization Settings

This chapter describes the windows from which you can change the settings for Sprint PCS Connection Manager.

Settings Window

From the Settings window, you can specify the settings for Sprint PCS Connection Manager.

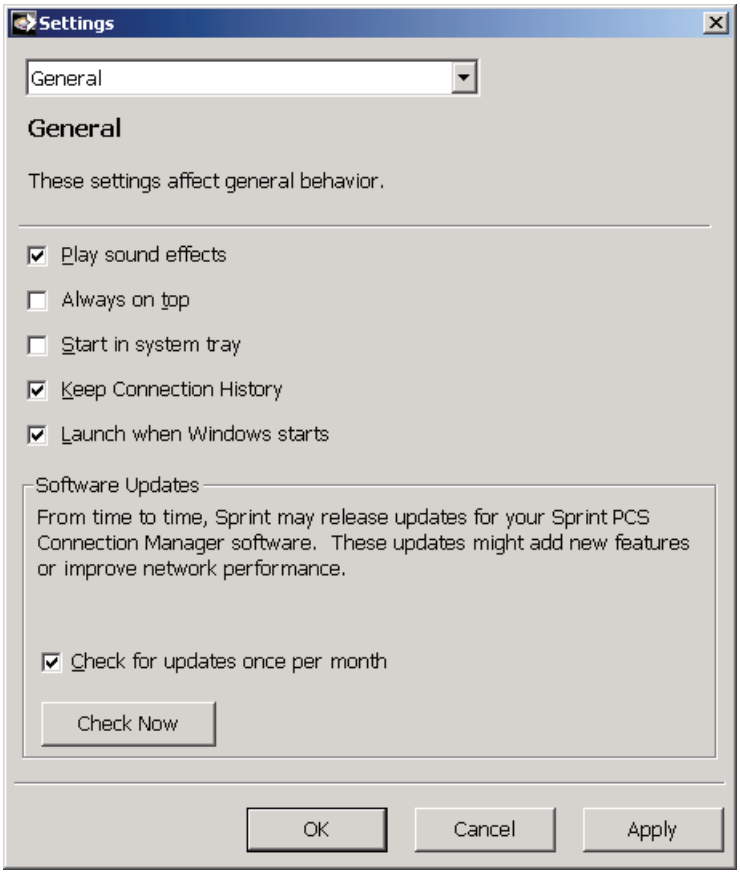
1. In Sprint PCS Connection Manager, click **Menu**.
2. Select **Settings**.
3. From the drop-down list, select one of the following categories of settings:
   - General (general behavior of Sprint PCS Connection Manager)
   - Sprint PCS Vision - Sierra Wireless (behavior of your Sprint PCS Vision connection)
   - Optimization (bandwidth optimization level used by your Sprint PCS Vision connection)
4. Make the appropriate changes to the settings.
5. To change other settings, repeat steps 3 and 4.
6. Click **OK**.

Note:	Changes to the setting **Launch when Windows starts** apply only after you restart Windows. Changes to the setting **Start in system tray** apply only after you exit and restart Sprint PCS Connection Manager.

Tip:	You can also access the Settings window from the Connection History window: click **File > Settings**.

General Settings

From the General option of the Settings window, you can specify settings that affect the general behavior of Sprint PCS Connection Manager.



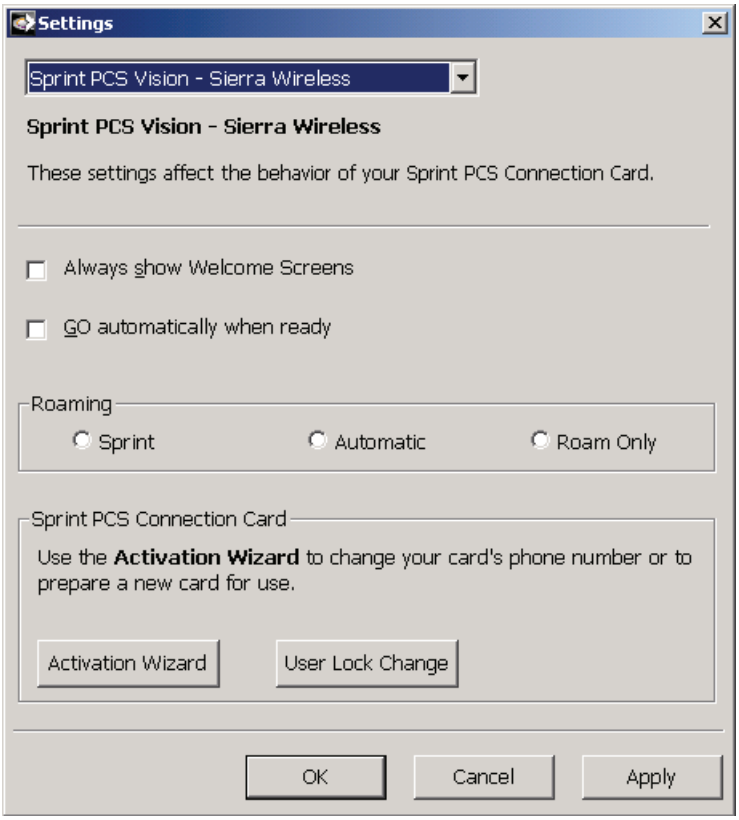
The following table describes the options:

Menu Item	Description
Play sound effects	Play a clicking sound whenever an action is made in Sprint PCS Connection Manager.
Always on top	Keep Sprint PCS Connection Manager visible on your screen regardless of what applications are open.
Start in system tray	Have Sprint PCS Connection Manager start (minimized) in the system tray on startup. (See "Restoring Sprint PCS Connection Manager" on page 40.)
Keep Connection History	Have Sprint PCS Connection Manager keep a log of your data connections (page 62).
Launch when Windows starts	Have Sprint PCS Connection Manager start automatically (when Windows starts). **Tip:** You can also set the Sprint PCS Vision connection to launch automatically whenever available (see "**GO automatically when ready**" on page 58). These two settings can provide an "always-on" connection, as long as you have Sprint PCS Vision network coverage.
Check for updates once per month	Have Sprint PCS Connection Manager automatically check for software updates (page 66).
Check Now	Check for software updates immediately. **Note:** During the software update, Sprint PCS Connection Manager will exit. Before you initiate the software update, finish any web browsing, data transfers, and so on.

Note:	Changes to the setting **Launch when Windows starts** apply only after you restart Windows. Changes to the setting **Start in system tray** apply only after you exit and restart Sprint PCS Connection Manager.

Sprint PCS Vision Settings

From the Sprint PCS Vision option of the Settings window, you can change the behavior of your Sprint PCS Vision connection.



The following table describes the options:

Menu Item	Description
Always show Welcome screens	Display a welcome screen upon a successful connection to the Sprint PCS Vision network.
GO automatically when ready	Automatically connect to the Sprint PCS Network after Sprint PCS Connection Manager launches. **Tip:** You can also set Sprint PCS Connection Manager to start automatically (see "**Launch when Windows starts**" on page 56). These two settings can provide an "always-on" connection, as long as you have Sprint PCS Vision network coverage.
Sprint	Disallow roaming when Sprint coverage is unavailable. You will be able to connect only when Sprint coverage is available.
Automatic	Allow roaming when Sprint coverage is unavailable. **Note:** Roaming rates will apply.
Roam Only	Allow only roaming. **Note:** Roaming rates will apply.
Activation Wizard	Used only when activating a Sprint PCS Connection Card, or when changing your card's phone number. See page 24.
User Lock Change	Change the security lock code of the Sprint PCS Connection Card (page 46).

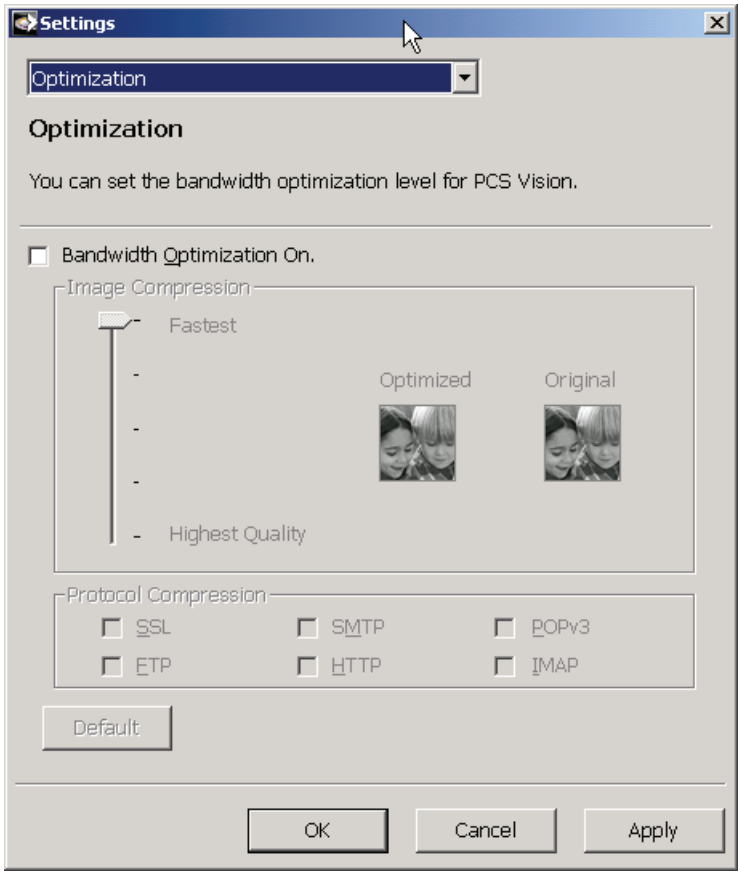
Optimization Settings

Note:	This window is available only if the optimization client was installed (page 17).

The Sprint PCS Connection Card supports bandwidth optimization – a combination of data compression, TCP/IP optimization and caching. When the related software is installed, the Sprint PCS Connection Card uses bandwidth optimization whenever possible (subject to network availability); when optimization is in use, the icon is displayed in Sprint PCS Connection Manager.

The improvement in your perceived system speed depends on the nature of your application. Limitations to bandwidth optimization include minimal improvements with email applications (page 71).

From the Optimization option of the Settings window, you can set the bandwidth optimization level used by your Sprint PCS Vision connection.



To enable optimization:

- Select **Bandwidth Optimization On**.

To adjust the level of optimization:

- Use the slider (under **Image Compression**).
  - For increased system speed, move the slider towards **Fastest**. This may result in a lower quality of graphics.
  - For the highest quality of graphics, move the slider towards **Highest Quality**. This may result in a lower system speed.

Do not change the Protocol Compression settings, unless you are very familiar with how these protocols work, or a Sprint representative instructs you to change them.

Tools

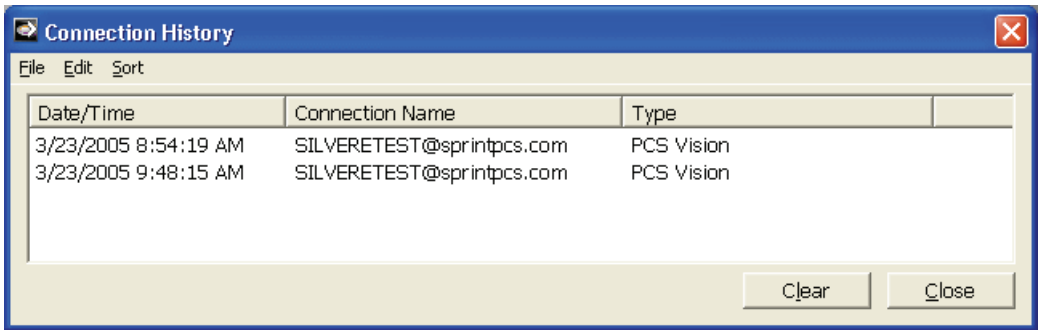
In This Section

- Viewing the Connection History
- Viewing Alerts
- Running Diagnostics
- Updating the Software
- About Sprint PCS Connection Manager

This chapter describes various features you can use, to view information about the Sprint PCS Connection Card and the Sprint PCS Connection Manager software.

Viewing the Connection History

Connection History displays a record of connections established using your Sprint PCS Connection Card. You can sort records by connection name, to easily distinguish between personal and business usage.



From this window you can also access the Settings window (page 54) (**File > Settings**).

Note:	For connections to be recorded, **Keep Connection History** must be enabled (page 56).

To view the Connection History:

1. In Sprint PCS Connection Manager, click **Menu**.
2. Select **Connection History**.

To sort the entries:

- Click the button that contains the title of the column you want to sort by (you can reverse the sort order by clicking the button again).

  – or –

  Click an option under the **Sort** menu.

To export the entries to a text file:

1. Select **File > Export**.
2. Specify a file name and path.
3. Click **Save**.

To copy one or more entry:

1. Select the entries (click a single entry, or use Ctrl-click or Shift-click to select multiple entries; to select all entries, use **Edit > Select All**).
2. Select **Edit > Copy**.
3. Paste the entries (for example, into a text file or email).

To delete all entries:

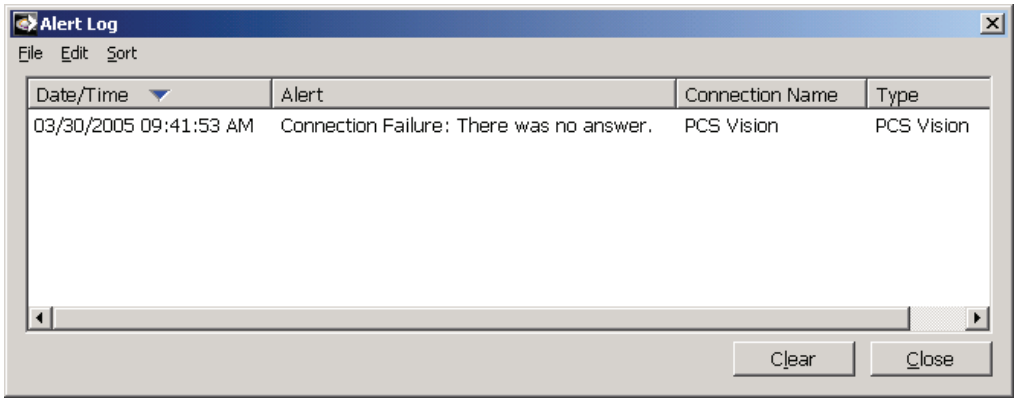
- Click the **Clear** button.

To delete one or more entry:

1. Select the entries (click a single entry, or use Ctrl-click or Shift-click to select multiple entries).
2. Select **Edit > Delete**.

Viewing Alerts

The Alert Log displays a record of all alerts (for example, connection errors) that have been received while establishing and maintaining connections. You can use the Alert Log to help isolate and resolve connection issues.



To view the Alert Log:

1. In Sprint PCS Connection Manager, click **Menu**.
2. Select **Alert Log**. (This menu option is unavailable, if the alert log is empty.)

To sort the entries:

- Click the button that contains the title of the column you want to sort by (you can reverse the sort order, by clicking the button again)

  – or –

  Click an option under the **Sort** menu.

To export the entries to a text file:

1. Select **File > Export**.
2. Specify a file name and path.
3. Click **Save**.

To copy one or more entry:

1. Select the entries (click a single entry, or use Ctrl-click or Shift-click to select multiple entries; to select all entries, use **Edit > Select All**).
2. Select **Edit > Copy**.
3. Paste the entries (for example, into a text file or email).

To delete all entries:

- Click the **Clear** button.

To delete one or more entry:

1. Select the entries (click a single entry, or use Ctrl-click or Shift-click to select multiple entries).
2. Select **Edit > Delete**.

Running Diagnostics

To identify problems connecting to the Sprint PCS Network, use the Device Info & Diagnostics window. Device Info & Diagnostics evaluates issues with your USB port, port configuration, network signal strength, the Sprint PCS Network, Sprint PCS Connection Manager, and more. Once the program runs a diagnostics check, it recommends solutions.

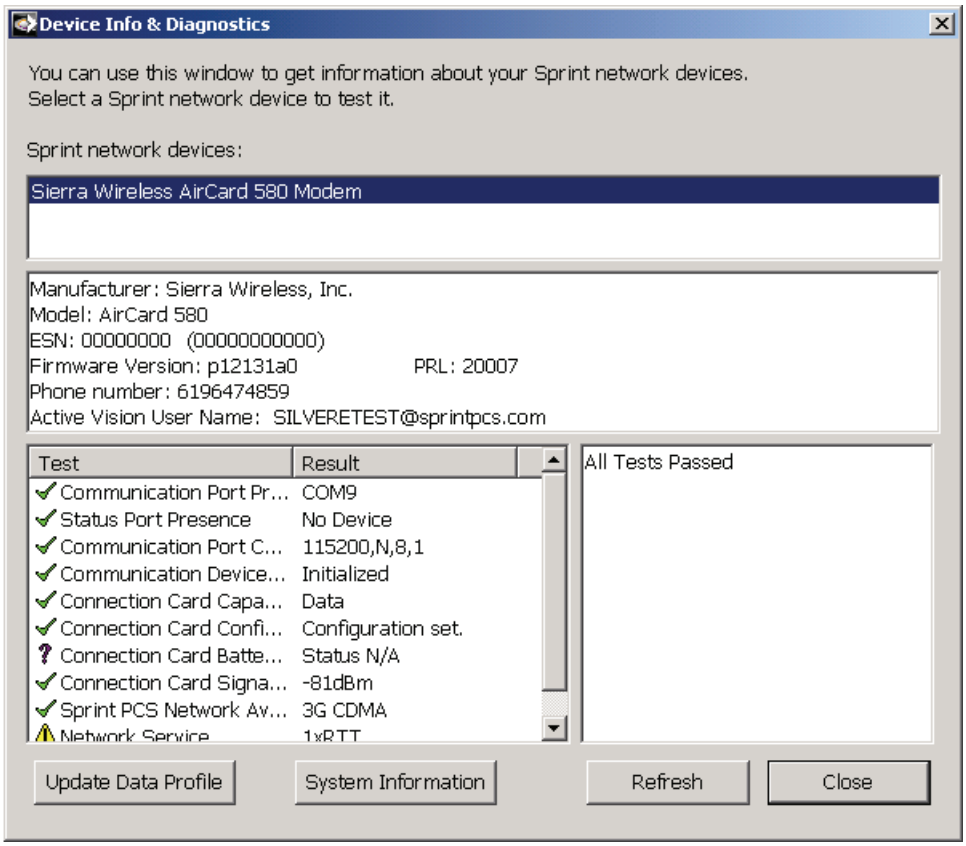
The program also displays information such as your phone number.

Results of the diagnostics can be shared with a Sprint Customer Service Specialist, to assist that person with troubleshooting.

To access the Device Info & Diagnostics window:

1. Ensure the Sprint PCS Connection Card is inserted.
2. In Sprint PCS Connection Manager, click **Menu**.
3. Select **Device Info & Diagnostics**.

The tests automatically execute when the window opens.


Device Info & Diagnostics
You can use this window to get information about your Sprint network devices.
Select a Sprint network device to test it.
Sprint network devices:
Sierra Wireless AirCard 580 Modem
Manufacturer: Sierra Wireless, Inc.
Model: AirCard 580
ESN: 00000000 (00000000000)
Firmware Version: p12131a0 PRL: 20007
Phone number: 6196474859
Active Vision User Name: SILVERETEST@sprintpcs.com
Test
Result
Communication Port Pr... COM9
Status Port Presence No Device
Communication Port C... 115200,N,8,1
Communication Device... Initialized
Connection Card Capa... Data
Connection Card Confi... Configuration set.
Connection Card Batte... Status N/A
Connection Card Signa... -81dBm
Sprint PCS Network Av... 3G CDMA
Network Service 1xRTT
All Tests Passed
Update Data Profile
System Information
Refresh
Close

From the Device Info & Diagnostics window, you can view system information (page 66), and save the system information to an RTF file.

From the Device Info & Diagnostics window, you can also update parameters in your Sprint PCS Connection Card:

- Click **Update Data Profile**. (If this button is not displayed, eject and re-insert the card.)

Displaying System Information

The System Information window displays:

- **System Parameters:** Information about your computer hardware and software
- **Installed Files**: Files related to Sprint PCS Connection Manager
- **Device Info & Diagnostics**: Information about the Sprint PCS Connection Card (including its phone number), and results of various tests

To display system information:

1. Select **Menu > Device Info & Diagnostics**.
2. In the Device Info & Diagnostics window, click **System Information**.

To save the information to a file (for example, if you are requested to send the report to your service provider representative):

1. In the System Information window, click **Create Report**.
2. Specify a file name and path.
3. Click **Save**.

Updating the Software

From time to time, Sprint may release updates for Sprint PCS Connection Manager and your Sprint PCS Connection Card. These updates might add features or improve network performance.

Note:	During the software update, Sprint PCS Connection Manager will exit. Before you initiate the software update, finish any web browsing, data transfers, and so on.

To update the software:

1. Ensure you have a network connection.
2. In Sprint PCS Connection Manager, click **Menu**. Select **Software Updates**.

   – or –

   From the General option of the Settings window (page 54), click **Check Now**.

You can also set the software to automatically check for updates once a month:

1. In Sprint PCS Connection Manager, click **Menu**. Select **Settings**.
2. Select **Check for updates once per month**.

About Sprint PCS Connection Manager

The About Sprint PCS Connection Manager window displays information about the Sprint PCS Connection Manager software.

To display this window:

- In Sprint PCS Connection Manager, click **Menu**, then **About Sprint PCS Connection Manager**.

  – or –

  Right-click the Sprint PCS Connection Manager icon in the system tray and, from the shortcut menu, select **About Sprint PCS Connection Manager**.

To close this window, click anywhere inside it.

Tip:	To display more information, you can run diagnostics (page 64).

Frequently Asked Questions

In This Section

- What is Sprint PCS Connection Manager?
- If the connection is “always on,” am I always being billed?
- How fast is the connection with Sprint PCS Connection Manager?
- Can I connect to a dial-up account like AOL or EarthLink?
- Once I connect to the Nationwide Sprint PCS Network, how do I access my corporate network through a VPN?
- How can I optimize my settings to achieve the fastest speeds and conserve data when accessing my corporate network?
- Why won't my laptop go into hibernation mode when using my Sprint PCS Connection Card?

What is Sprint PCS Connection Manager?

Sprint PCS Connection Manager is software that lets you connect to the Sprint PCS Vision Network. Sprint PCS Connection Manager takes advantage of the increased data speeds offered by the Nationwide Sprint PCS Network.

If the connection is "always on," am I always being billed?

No. The connection to the network goes dormant after a period of inactivity, but the connection can be re-established faster than having to reconnect. Billing occurs only when data is passed across the network.

How fast is the connection with Sprint PCS Connection Manager?

The Sprint PCS Network allows you to connect to the Internet at speeds of up to 2.4 Mbps (1xEV-DO) or 144 kbps (1X). Average connection speeds are between 300 and 500 kbps for 1xEV-DO, and between 50 kbps and 70 kbps for 1X. This is faster than a dial-up connection. Bandwidth optimization on the Nationwide Sprint PCS Network (page 59) provides increased data throughput for certain applications and protocols.

Can I connect to a dial-up account like AOL or EarthLink?

No. The software does not support dial-up connections.

Once I connect to the Nationwide Sprint PCS Network, how do I access my corporate network through a VPN?

Once you complete a wireless connection, you may need to launch an extranet client provided by your company and supply the appropriate username and password to gain access. For support, contact your company helpdesk.

How can I optimize my settings to achieve the fastest speeds and conserve data when accessing my corporate network?

Depending on your corporate email client, you can optimize your settings by doing the following:

- Work in “offline” mode, and connect only when you need to send or receive e-mail.
- Remove the Preview Pane, or use the AutoPreview for headers only.
- Save attachments to a desktop folder and then open from that folder, rather than opening the attachment directly from the message.

For more information, access the Microsoft whitepaper at: www.microsoft.com/office/outlook/evaluation/perform.doc.

See also Optimization Settings (page 59).

Why won't my laptop go into hibernation mode when using my Sprint PCS Connection Card?

If you're using Windows® 2000, you need to upgrade to Service Pack 4 from www.microsoft.com.

Troubleshooting Tips

In This Section

- **Problems, Causes, and Solutions**
- **GO Button Is Unavailable**
- **Not In Service**
- **Cannot Connect To the Sprint PCS Vision network**
- **Could Not Prepare Data Services**
- **Unable To Prepare Data Services**
- **Sprint PCS Connection Manager Stopped Working After Upgrading Windows**

This section helps you diagnose and solve common problems you may experience while using your Sprint PCS Connection Card and the Sprint PCS Connection Manager software.

Problems, Causes, and Solutions

When properly installed, the Sprint PCS Connection Card is a highly reliable product.

Most problems are caused by one of these issues:

- System resources required by the card are being used by other devices. See “System Requirements” on page 8.
- Network coverage is not available (either because you are outside the Nationwide Sprint PCS Network or because of an account or network problem).
- The driver did not install properly, due to a PC Card issue with your notebook computer.

Tips when troubleshooting problems with your Sprint PCS Connection Card and software:

- Ensure your card is inserted, and not locked (page 44).
- To determine the connection status, use the icons in the system tray (page 38), and icons and messages in Sprint PCS Connection Manager (page 33 and page 35).
- The alert log might indicate the nature of the problem (page 63).
- Run diagnostic tools supplied with Sprint PCS Connection Manager (page 64).
- Check the Frequently Asked Questions (page 69).
- Use the resources listed in Section 2D (page 27).
- Has Sprint PCS Connection Manager stopped working after you've upgraded to a different version of Windows (page 76)?

If, after reading this section, you are unable to resolve a problem, please visit www.sprint.com or contact Sprint Customer Service (see “Getting Help” on page 27).

GO Button Is Unavailable

Ensure the Sprint PCS Connection Card is inserted and not locked (page 44).

Not In Service

If Sprint PCS Connection Manager displays “Not in service,” try one of the following:

- Ensure the card is properly inserted into your computer.
- Try re-orienting the antenna.
- If you are inside a building or near a structure that may be blocking the signal, change the position or location of your computer.
- Ensure you are within the Sprint PCS Vision network coverage area.
- Check with Sprint — a network or account problem may be preventing the Sprint PCS Connection Card from obtaining service.

Cannot Connect To the Sprint PCS Vision network

If, when trying to establish a Sprint PCS Vision connection, the connection gets dropped as soon as it is established:

1. Select:

   Windows XP: **Start > Control Panel > Network Connections**

   Windows 2000: **Start > Settings > Control Panel > Network and Dial-Up Connections**
2. Right-click **Sprint PCS Vision - Sierra Wireless**, and select **Properties**.
3. Select the Networking tab.
4. Select **Settings**.
5. Ensure that “Enable LCP Extensions” and “Negotiate multi-link for single link connections” are **not** selected.
6. Click **OK**.

Could Not Prepare Data Services

See Unable To Prepare Data Services on page 76.

Unable To Prepare Data Services

Note:	The message may appear as **"Could not prepare data services. Please contact..."**

The Sprint PCS Connection Card was unable to access the IOTA server to obtain data account parameters for you. This may be due to poor signal strength or the IOTA server is not responding.

- Confirm you have sufficient signal strength. Try the actions listed for "Not In Service" (page 75).
- Contact Sprint for assistance (page 27).

This message may indicate that your system does not support 128-bit encryption for high-security access to data provisioning. You will not be able to complete the activation of data services until you upgrade your system's security (see "High Encryption Requirements" on page 9).

Sprint PCS Connection Manager Stopped Working After Upgrading Windows

If you upgrade to a different version of Windows, Sprint PCS Connection Manager will not work.

Note:	After the following steps, any changes you made to Sprint PCS Connection Manager settings will be lost; you will have to re-apply the changes.

Before you upgrade Windows, or if you've upgraded Windows and Sprint PCS Connection Manager stopped working:

1. Uninstall Sprint PCS Connection Manager (page 47).
2. Upgrade Windows.
3. Reinstall Sprint PCS Connection Manager (page 15).

Technical Specifications and Regulatory Information

Technical Specifications

In This Section

- LED Operation
- Radio Frequency and Electrical Specifications
- Software Specifications
- Environmental Specifications
- Mechanical Specifications

This section describes the LED and various specifications of your Sprint PCS Connection Card.

LED Operation

The AirCard 580 has a single red/green LED on the antenna end of the card. The LED operates as follows:

LED Behavior	Indicates
Red, blinking slowly	The Sprint PCS Connection Card is powering up, or no service is available. See “Not In Service” on page 75.
Green, blinking slowly	The Sprint PCS Connection Card has acquired a channel on the CDMA network and is in idle mode (no active data session is in progress).
Green, blinking rapidly	An active data session is in progress.
Solid red	An error has occurred. Eject the Sprint PCS Connection Card (page 21) and reinsert it.

Radio Frequency and Electrical Specifications

Approvals	Compliant with: IS-2000 Release 1.0 (CDMA (1X), IS-707-A Data, IS-856 (CDMA 1xEV-DO), IS-866, CDMA Developers Group FCC (ID: PNF-PC3220P) Industry Canada
Voltage	+3.3 Vdc from PCMCIA Slot
Current	Maximum:950 mA Typical data call current (talk mode): 370 mA (1X) 470 mA (1xEV-DO) Standby: 110 mA (1xEV-DO/IS2000 hybrid mode)
Transmitter power	200 mW (+23 dBm)
Transmit	PCS: 1805 to 1870 MHz Cellular: 824 to 849 MHz
Receive	PCS: 1715 to 1780 MHz Cellular: 868 to 894 MHz
Channel spacing	1.25 MHz
Frequency stability	±150 Hz

Software Specifications

CDMA specification	IS - 2000 Release 0
Data service	IS - 707A
SMS (IS-637)	Not supported
FAX	Not supported
IOTA	Supported
OTASP (IS-683A, IS-683B, IS-683C)	Supported
OTAPA	Supported
PRL (preferred roaming list)	Supported
Authentication	Supported
Voice	Not supported
NAM	Single
E911 & Position Location	Not supported
TTY/Accessibility	Not supported
Mobile IP	Supported

Environmental Specifications

Operating temperature	-20 to +60°C (ambient, outside PCMCIA enclosure)
Storage temperature	-30 to +65°C
Humidity	95%, non-condensing
Vibration	Per PCMCIA specification
Drop	100 cm onto vinyl covered concrete

Mechanical Specifications

Dimensions (W x L x H)	54 mm x 116.8 mm x 11 mm (Height of PC Card slot portion: 5mm)
Power button	Not supported
Headset jack	Not supported
LED	Red/green

Regulatory Information

In This Section

- **Regulatory Notices**
- **Patents**
- **Trademarks**
- **Copyright**
- **Limitation of Liability**
- **Additional Information and Updates**

This section contains important regulatory notices about your Sprint PCS Connection Card, and also patent and other information.

Regulatory Notices

This device is compliant with Parts 15 and 24 of the FCC Rules. This PC Card has been tested with the typical laptop computer with the side loading PCMCIA bay. This PC card must not be co-located or operated in conjunction with any other antenna or transmitter. Use of this device in any other configuration may exceed the FCC RF Exposure compliance limit. Operation of this device is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesirable operations.

FCC guidelines stipulate that the antenna should be more than 2.5 cm (1") from by-standers and 1.0 cm (0.39") from the user. When in use, the antenna should be fully extended upward at a 90 degree angle.

The highest reported SAR values of the Sprint PCS Connection Card by Sierra Wireless (AirCard 580) are:

1. Separation distance of 2.5 cm (1") to nearby persons (0.85 W/kg).
2. Direct contact to user's lap with Sprint PCS Connection Card inserted into the bottom PC Card slot of the laptop computer with antenna in the stowed (down) position (0.782 W/kg).

FCC ID: PNF-PC3220P

CAUTION: Unauthorized modifications or changes not expressly approved by Sprint Communications Company L.P. could void compliance with regulatory rules and thereby your authority to use this equipment.

WARNING (EMI) - United States FCC Information: This equipment has been tested and found to comply with the limits pursuant to Part 15 & 24 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in an appropriate installation.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communication. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

WARNING (EMI) - Canada: This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the interference causing equipment standard entitled “Digital Apparatus,” ICES-003 of the Department of Communications.

Cet appareil numérique respecte les limites de bruits radioélectriques applicables aux appareils numériques de Classe B prescrites dans la norme sur le matériel brouilleur: “Appareils Numériques,” NMB-003 édictée par le ministre des Communications.

If you have purchased this product under a United States Government contract, it shall be subject to restrictions as set forth in subparagraph (c)(1)(ii) of Defense Federal Acquisitions Regulations (DFARs) Section 252.227-7013 for Department of Defense contracts, and as set forth in Federal Acquisitions Regulations (FARs) Section 52.227-19 for civilian agency contracts or any successor regulations. If further government regulations apply, it is your responsibility to ensure compliance with such regulations.

Patents

Portions of this product are covered by some or all of the following US patents:

5,515,013	5,629,960	5,682,602	5,845,216	5,847,553
5,878,234	5,890,057	5,929,815	6,169,884	6,191,741
6,199,168	6,339,405	6,359,591	6,400,336	6,516,204
6,561,851	6,643,501	6,653,979	6,697,030	6,785,830
6,845,249	6,847,830	6,876,697	6,879,585	D442,170
D459,303				

and other patents pending.

Licensed by QUALCOMM Incorporated under one or more of the following United States patents and/or their counterparts in other nations:

QUALCOMM® 3G CDMA

4901307	5056109	5101501	5109390	5228054
5267261	5267262	5337338	5414796	5416797
5490165	5504773	5506865	5511073	5535239
5544196	5568483	5600754	5657420	5659569
5710784	5778338			

Manufactured or sold by Sierra Wireless Inc., its Affiliates, or its Licensees under one or more patents licensed from InterDigital Group.

Trademarks

Sprint, the “Going Forward” logo and other trademarks are trademarks of Sprint Nextel.

AirCard® and “Heart of the Wireless Machine”® are registered trademarks of Sierra Wireless.

Sierra Wireless, the Sierra Wireless logo, the red wave design, and the red-tipped antenna are trademarks of Sierra Wireless.

Windows® is a registered trademark of Microsoft Corporation.

Qualcomm® is a registered trademark of Qualcomm Incorporated.

InstallShield® is a registered trademark and service mark of InstallShield Corporation.

All other trademarks are property of their respective owners.

Copyright

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Limitation of Liability

The information in this manual is subject to change without notice and does not represent a commitment on the part of Sierra Wireless. SIERRA WIRELESS AND ITS AFFILIATES SPECIFICALLY DISCLAIM LIABILITY FOR ANY AND ALL DIRECT, INDIRECT, SPECIAL, GENERAL, INCIDENTAL, CONSEQUENTIAL, PUNITIVE OR EXEMPLARY DAMAGES INCLUDING, BUT NOT LIMITED TO, LOSS OF PROFITS OR REVENUE OR ANTICIPATED PROFITS OR REVENUE ARISING OUT OF THE USE OR INABILITY TO USE ANY SIERRA WIRELESS PRODUCT, EVEN IF SIERRA WIRELESS AND/OR ITS AFFILIATES HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES OR THEY ARE FORESEEABLE OR FOR CLAIMS BY ANY THIRD PARTY.

Notwithstanding the foregoing, in no event shall Sierra Wireless and/or its affiliates aggregate liability arising under or in connection with the Sierra Wireless product, regardless of the number of events, occurrences, or claims giving rise to liability, be in excess of the price paid by the purchaser for the Sierra Wireless product.

Additional Information and Updates

For up-to-date product descriptions, documentation, application notes, firmware upgrades, troubleshooting tips, and press releases, visit:

www.sierrawireless.com

Safety Information and Terms & Conditions

Safety and Notices

In This Section

- **Important Notice**
- **Safety and Hazards**
- **Care and Maintenance**

This section describes important guidelines regarding your Sprint PCS Connection Card.

Important Notice

Because of the nature of wireless communications, transmission and reception of data can never be guaranteed. Data may be delayed, corrupted (i.e., have errors) or be totally lost. Although significant delays or losses of data are rare when wireless devices such as the Sprint PCS Connection Card by Sierra Wireless (AirCard 580) CDMA modem are used in a normal manner with a well-constructed network, they should not be used in situations where failure to transmit or receive data could result in damage of any kind to the user or any other party, including but not limited to personal injury, death, or loss of property. SPRINT SPECTRUM L.P. accepts no responsibility for damages of any kind resulting from delays or errors in data transmitted or received using the Sprint PCS Connection Card by Sierra Wireless (AirCard 580) CDMA modem, or for failure of the Sprint PCS Connection Card by Sierra Wireless (AirCard 580) to transmit or receive such data.

Safety and Hazards

Do not operate the Sprint PCS Connection Card by Sierra Wireless (AirCard 580) in areas where blasting is in progress, where explosive atmospheres may be present, near medical equipment, life support equipment, or any equipment which may be susceptible to any form of radio interference. In such areas, the Sprint PCS Connection Card by Sierra Wireless (AirCard 580) **MUST BE POWERED OFF**. It can transmit signals that could interfere with this equipment.

Do not operate the Sprint PCS Connection Card by Sierra Wireless (AirCard 580) in any aircraft, whether the aircraft is on the ground or in flight. In aircraft, the Sprint PCS Connection Card by Sierra Wireless (AirCard 580) **MUST BE POWERED OFF**. When operating, it can transmit signals that could interfere with various onboard systems.

The driver or operator of any vehicle should not operate the Sprint PCS Connection Card by Sierra Wireless (AirCard 580) while in control of a vehicle. Doing so will detract from the driver or operator's control and operation of that vehicle. In some jurisdictions, operating such communications devices while in control of a vehicle is an offense.

Care and Maintenance

See page 11.

Terms and Conditions

In This Section

- **Terms and Conditions of Services**

This section contains the terms and conditions of service for your Sprint PCS Connection Card.

Terms and Conditions of Services

Effective September 1, 2005

Thanks for choosing Sprint. These terms and conditions are part of your agreement with Sprint for PCS (CDMA) Services. Separate terms apply for any iDEN products or services.

Please note these terms may not be the most current version. You can get a current version of the terms on our website at www.sprint.com or by requesting a copy from us at 1-888-211-4PCS.

A para solicitar esta literatura en español, por favor contactar a 1-888-211-4PCS(4727).

General. This agreement ("Agreement") covers the terms on which we agree to provide and you agree to accept any service or product we make available to you, including your wireless services, wireless devices, etc. (collectively "Services"). You accept this Agreement when you do any of the following: (a) provide your written or electronic signature; (b) accept through an oral or electronic statement; (c) attempt to or in any way use any of the Services; (d) pay for any Services; or (e) open any materials or package that says you are accepting when you open it. The Agreement includes the terms in this document together with the terms associated with the Services you select (as described in our marketing materials, e.g., service plan brochures, or on our website). You represent that you are at least 18 years old. In this document, we use the words "we," "us," "our" or "Sprint" to refer to Sprint Spectrum L.P. and its affiliates doing business as Sprint PCS.

Agreement. We may change the Agreement at any time with notice. Any changes to the Agreement are effective when we publish them. If you use our Services or make any payment to us on or after the effective date of the changes, you accept the changes. If we change a material term of the Agreement and that change has a material adverse effect on you, you may terminate the Agreement without an Early Termination Fee by calling 1-888-567-5528 within 30 days after the changes go into effect. You understand and agree that taxes, Universal Service fees and other charges imposed by the government or based on government calculations may increase or decrease on a monthly basis, and that this paragraph does not apply to any increases in such taxes, Universal Service fees or other charges.

Activating Service. Before activation, we may check your credit and verify your identity. You must have and maintain satisfactory credit to receive and continue to

receive Services. We may charge a nonrefundable activation fee, deposit, prepayment or other fee to establish or maintain Services.

Term Commitments. Unless we specifically tell you otherwise, our service plans require that you maintain service for a minimum term ("Term Service Plan"), usually

1 or 2 years. After satisfying this minimum term, your service plan will continue on a month-to-month basis unless you have agreed to extend the term for additional period(s). Certain service, promotional or product offers may require that you agree to or extend a Term Service Plan. As discussed below, we may charge you an Early Termination Fee if you deactivate a Term Service Plan before the end of the term.

Using Services. You agree to not use our Services in an unlawful, fraudulent or abusive manner. You may not resell or lease Services to anyone. Sprint is not responsible for any opinions, advice, statements, services applications or other information provided by third parties and accessible through our various Services, including the internet. Neither Sprint, its vendors or licensors guarantees the accuracy, completeness or usefulness of information that is obtained through these Services. You are responsible for evaluating such content.

You are also responsible for any use of our Services through any wireless device on your account including, but not limited to, use by children or minors. We strongly recommend that you closely monitor any such usage.

Changing Services. Changes to Services will generally be effective at the start of your next full invoicing cycle. In certain instances, the changes may take place sooner, in which case your invoice will reflect pro-rated charges. Certain changes may be conditioned upon payment of an Early Termination Fee or certain other charges.

Termination of Services. Consistent with this Agreement: (a) we may terminate Services at any time with notice to you and, in certain instances, without notice; and (b) you may terminate Services at any time with prior notice to us. Except as otherwise provided in this Agreement, IF YOU TERMINATE YOUR TERM SERVICE PLAN EARLY, OR WE DO SO FOR GOOD CAUSE, YOU WILL BE REQUIRED TO PAY THE APPLICABLE EARLY TERMINATION FEE ASSOCIATED WITH YOUR SERVICES. We will not charge an Early Termination Fee for deactivations consistent with our Return Policy or for service plans being provided on a month-to-month basis. If any Services are terminated before the end of your current invoicing cycle, we will not prorate charges to the date of termination, and you will not receive a credit or refund for any unused Services.

Wireless Devices, Numbers & E-mail Addresses. We did not manufacture your wireless device and we are not responsible for any defects or for the acts or omissions of the manufacturer. The only warranties on your device are any limited warranties extended by the manufacturer directly to you or passed on to you through us. Your device may not accept Services directly from any other carrier. You do not have any rights to any number, e-mail address or other identifier we may assign to your device or account; you may not modify, change or transfer any of these except as we allow or as allowed for by law. In certain instances, you may transfer your number from another carrier to us, or from us to another carrier. We do not guarantee that transfers to or from us will be successful. If you transfer your number away from us, the terms of this Agreement (e.g., Early Termination Fee, etc.) still apply. If a transfer to Sprint is not successful, you will be responsible for any discounts provided to you with the purchase of your device. See our printed in-store materials or visit www.sprint.com for additional important information on number transfers.

Coverage. Available coverage areas for Services are generally identified in our mapping brochures and at www.sprint.com. This may include coverage on our digital network (the "Nationwide Sprint PCS Network") as well as coverage we make available to you through agreements with other carriers ("off network" or "roaming" coverage).

All coverage maps are high level representations of outdoor coverage and there are gaps in coverage within areas shown as covered on the maps. Coverage is not available everywhere, nor can we guarantee you will receive coverage at all times, or without interruptions or delays (e.g., dropped calls, blocked calls, etc.) in the coverage areas we identify. Actual coverage and quality of Services may be affected by conditions within or beyond our control, including network problems, software, signal strength, your equipment, structures (including buildings in which you may be located), atmospheric, geographic, or topographic conditions.

Roaming Coverage. You are roaming anytime your phone indicates that you are roaming. Roaming coverage is only available with certain devices and, unless included as part of your Services, will result in additional charges. Roaming calls placed "manually" (through an operator or with a credit card) will always incur separate and additional charges. Depending on your phone settings, you may automatically roam if there is a gap or interruption in coverage within the Nationwide Sprint PCS Network coverage area and roaming coverage areas. See your phone guide for how to adjust phone settings. Certain features and services may not be available in roaming coverage areas (including PCS Vision, voicemail, call waiting, call forwarding, etc.).

Charges. Carefully review the terms of your Services. You will be assessed charges based on the terms of your Services including, without limitation, monthly recurring charges and charges based on actual usage (e.g., charges for long distance, roaming, call forwarding, directory assistance, etc.). Airtime and other time based usage charges are calculated from when your device first initiates contact with a network until the network connection is broken, whether or not you were actually successful in connecting to the intended destination. However, you will not be charged for voice calls that ring and do not pick up, or if you get a busy signal. For voice calls received by your device, you are charged from the time shortly before the phone starts ringing until the call is terminated. You are charged for an entire voice call based on the time period in which the call is initiated. Partial minutes of use are rounded up to the next minute.

Sprint PCS Vision Charges. Vision usage is measured in bytes, not in minutes. Bytes are rounded up to kilobytes. Usage rounding occurs at the top of each clock hour while in a session and at the end of each session and is then charged to you based on the terms of your Services. Depending on your Services, usage may be charged against an allowance or on a fixed price per kilobyte. Usage charges may be rounded up to the next cent at monthly or other intervals. In certain instances, you may not know that your session has not ended. As long as your device is connected to our network, you will incur data usage charges. You will be charged for all data directed to the internet address (or "IP address") assigned to your device, regardless of who initiates the activity or whether your device actually receives the data. This includes, but is not limited to, the amount of data associated with the particular information/item (e.g., game, ringer, email, etc.), additional data used in accessing, transporting and routing this information/item on our network, data from partial or interrupted downloads, re-sent data, and data associated with unsuccessful attempts to reach websites or use applications. Based on these and a number of other factors (e.g., the specific application, network performance, etc.) data used and charged to you will vary widely, even for the same activity. Estimates of data usage - for example, the size of downloadable files - will not be accurate or a reliable predictor of actual usage. Your invoice will not separately identify the number of kilobytes attributable to your use of specific sites, sessions or services.

Taxes and Surcharges. We invoice you for taxes, fees and other charges levied by or remitted directly to federal, state, local or foreign governments including, without **limitation, sales, gross receipts, Universal Service, use, and excise taxes.** If you claim any tax exemption, you must provide us with a valid tax-exempt document. Tax exemptions are not applied retroactively. We also invoice you for surcharges that

we collect and keep to pay for the costs of complying with government programs such as number pooling and portability, and Enhanced 911 service; these charges are not the taxes nor government imposed assessments.

Invoicing & Payment. Invoicing cycles and dates may change from time to time. Monthly recurring and related charges for Services are generally invoiced one invoicing cycle in advance. Other charges are invoiced soon after they are incurred. Most usage is generally applied to the invoicing cycle in which they are incurred, but in some instances may be applied to subsequent invoicing cycles. You are responsible for all charges associated with any device activated on your account, regardless of who used the device. You must pay all charges by the due date on the invoice. Past due amounts accrue late charges until paid at the rate of 5% per month or at the highest rate allowed by law and may result in immediate suspension of your account. If you agree to any auto-payment option through banking or credit account, we may initiate payment from the account for all amounts we invoice you without additional authorization or notice. Based on your credit or payment history, we may require certain forms of guaranteed payment as a condition of maintaining Services. If we invoice you for amounts on behalf of a third-party, payments received are first applied to amounts due to us. You may be charged additional fees for certain methods of payment and for payments denied by a financial institution. Acceptance of payments (even if marked "paid in full") does not waive our right to collect all amounts that you owe us.

Disputed Charges. Disputes concerning any charges invoiced must be raised within 60 days of the date of the invoice. You accept all charges not disputed in this time period. Disputes can only be made by calling or writing us as directed on your invoice.

Account Spending Limit & Deposits. We may impose an account spending limit ("ASL") on any account without notice. We will notify you of an ASL based on your credit or payment history and may reduce the ASL at any time with prior notice. An ASL should not be relied on to manage usage on your account. We may suspend an account without prior notice when the account balance reaches the ASL, even if the account is not past due. Services can be restored upon payment of an amount that brings the account balance below the ASL and any past due amounts. If we require a deposit for you to establish or maintain an account, we will hold the deposit as partial guarantee of payment for Services. We may change the deposit amount at any time with notice for good reason. Except as we allow, a deposit may not be used to pay any invoice or delay payment. The deposit amount, the length of time we hold the deposit and changes to the deposit amount are determined based on your credit and payment history. The rate of

interest, if any, on the deposit is subject to change. We may mix deposits with our other funds. If your account is terminated for any reason, we may without notice apply your deposit to any outstanding charges. We may send any remaining deposit amounts to your last known address within 75 days after account termination. If the funds are returned to us, you may claim these funds for one year from the date of return. Any money held during this one-year period will not accrue interest for your benefit and are subject to a servicing fee charged against the balance. You forfeit any portion of the money left after the one-year period.

Other Sprint PCS Vision Terms. You will not receive voice calls while using Vision. Vision is not available for use with server devices or host computer applications, other systems that drive continuous heavy traffic or data sessions, or as substitutes for private lines or frame relay connections. Unlimited Vision plans/options may not be used with Sprint PCS phones or smart phones being used as a modem in connection with other equipment (e.g., computers, etc.) through use of connection kits or other phone-to-computer/PDA accessories, or Bluetooth or other wireless technology. We may terminate services without notice for any misuse. You may have access to certain games, ringers, screen savers and other items on our Vision site ("Premium Services") that are available for an additional charge. You will be billed for Premium Service purchases on your Sprint PCS invoice based on the charges as specified at purchase. Subject to the terms of the content purchased, we may delete premium and non-premium items downloaded to any storage areas we may provide, including any pictures, games and other content. We may limit the amount of Premium Services you may purchase in a specific timeframe (month, week, day, or other time period).

Voice Command. Calls to 911 or similar emergency numbers cannot be placed through the Voice Command feature. See our printed in-store materials or visit www.sprint.com for additional important information on this option.

Wireless Web. Wireless Web Services may be available depending on your device and Service plan/option. This is not a Vision service. Usage is calculated on minutes used and generally deducts from your Service plan minutes. See our printed in-store materials or visit www.sprint.com for additional important information on this option.

Lost or Stolen Equipment. If your device is lost or stolen, please notify us immediately by calling 1-888-211-4PCS. You are responsible for all charges incurred before you notify us of the loss or theft. You agree to cooperate reasonably with us in investigating suspected unlawful or fraudulent use.

Messaging. You may incur charges in accessing, sending or receiving messages on your device. We may impose limits on the number of voicemail, text, email or other messages that can be retained through your account. Indicators of messages on your device, including mailbox icons, may not always provide an up to date indication of new messages and you may at times need to manually reset or clear your mailbox indicator. Legitimate messages may be interrupted by software aimed at prevention of SPAM or similar messages.

Caller ID. If you do not want people you call to receive the number assigned to your phone, call us at 1-888-211-4PCS for information about automatic Caller ID blocking. The number assigned to your phone can be blocked on a per-call basis by dialing *67 + Destination Number + TALK (or similar key). Caller ID blocking is not available when using Vision or Wireless Web services.

TTY Access. A TTY (also known as TDD or Text Telephone) is a telecommunications device that allows people who are deaf or hard of hearing, or who have speech or language disabilities, to communicate by telephone. TTY doesn't work with all devices. If you have a TTY-capable device, it may not function effectively, or at all, when attempting 911 calls and should not be relied on for such calls.

Disclaimer of Warranties. WE MAKE NO REPRESEN-TATIONS OF WARRANTIES, EXPRESS OR IMPLIED, INCLUDING (TO THE EXTENT ALLOWED BY LAW) ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE CONCERNING YOUR SERVICES OR WIRELESS DEVICE. WE DO NOT PROMISE UNINTERRUPTED OR ERROR-FREE SERVICES AND YOU AGREE TO HOLD US HARMLESS FOR ALL SUCH PROBLEMS.

Limitation of Liability. Neither we nor our vendors, suppliers or licensors are liable for any damages arising out of or in connection with any: (a) act or omission by your, or another person or company; (b) providing or failing to provide Services, including deficiencies or problems with your wireless device, our network coverage or Services (e.g., dropped, blocked, interrupted calls/messages, etc.); (c) traffic or other accidents, or any health-related claims allegedly arising from the use of Services, any wireless devices or related accessories; (d) content or information accessed while using our Services, such as through the internet; (e) interruption or failure in accessing or attempting to access emergency services from your phone, including through 911, E911 or otherwise; or (f) events due to factors beyond our control, including acts of God (including, without limitation, weather-related phenomena, fire or earthquake), war, riot, strike, or orders of governmental authority. In the event we are found to be responsible to you for monetary damages relating to the Services (including wireless devices), you agree

that any such damages will not exceed the pro-rated monthly recurring charge for your Services during the affected period.

NO CONSEQUENTIAL OR OTHER DAMAGES. UNDER NO CIRCUMSTANCES ARE WE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL, PUNITIVE OR SPECIAL DAMAGES OF ANY NATURE WHATSOEVER ARISING OUT OF OR IN CONNECTION WITH PROVIDING OR FAILING TO PROVIDE SERVICES, PHONES OR OTHER EQUIPMENT USED IN CONNECTION WITH THE SERVICES, INCLUDING, WITHOUT LIMITATION, LOST PROFITS, LOSS OF BUSINESS, OR COST OF REPLACEMENT PRODUCTS AND SERVICES. THIS SECTION SURVIVES TERMINATION OF THIS AGREEMENT.

MANDATORY ARBITRATION OF DISPUTES. INSTEAD OF SUING IN COURT, YOU AND SPRINT AGREE TO ARBITRATE ANY AND ALL CLAIMS, CONTROVERSIES OR DISPUTES AGAINST EACH OTHER ARISING OUT OF OR RELATING TO THIS AGREEMEN, INCLUDING, WITHOUT LIMITATION, THE SERVICES, ANY PHONES/EQUIPMENT, OR ADVERTISING, EVEN IF IT ARISES AFTER YOUR SERVICES HAVE TERMINATED, AND INCLUDING CLAIMS YOU MAY BRING AGAINST SPRINT'S EMPLOYEES, AGENTS, AFFILIATES OR OTHER REPRESENTATIVES, OR THAT SPRINT MAY BRING AGAINST YOU ("CLAIMS"). THE FEDERAL ARBITRATION ACT APPLIES TO THIS AGREEMENT AND ITS PROVISIONS, NOT STATE LAW, GOVERN ALL QUESTIONS OF WHETHER A CLAIM IS SUBJECT TO ARBITRATION. THIS PROVISION DOES NOT PREVENT EITHER YOU OR SPRINT FROM BRINGING APPROPRIATE CLAIMS IN SMALL CLAIMS COURT, BEFORE THE FEDERAL COMMUNICATIONS COMMISSION OR A STATE PUBLIC UTILITIES COMMISSION.

YOU AND SPRINT FURTHER AGREE THAT NEITHER SPRINT NOR YOU WILL JOIN ANY CLAIM WITH THE CLAIM OF ANY OTHER PERSON OR ENTITY IN A LAWSUIT, ARBITRATION OR OTHER PROCEEDING; THAT NO CLAIM EITHER SPRINT OR YOU HAS AGAINST THE OTHER SHALL BE RESOLVED ON A CLASS-WIDE BASIS; AND THAT NEITHER SPRINT NOR YOU WILL ASSERT A CLAIM IN A REPRESENTATIVE CAPACITY ON BEHALF OF ANYONE ELSE. IF FOR ANY REASON THIS ARBITRATION PROVISION DOES NOT APPLY TO A CLAIM, WE AGREE TO WAIVE TRIAL BY JURY.

A single arbitrator engaged in the practice of law will conduct the arbitration. The arbitration will be filed with and the arbitrator will be selected according to the rules of either JAMS or the National Arbitration Forum ("NAF"), or, alternatively, as we may mutually agree. We agree to act in good faith in selecting an arbitrator. The arbitration will be conducted by and under the then-applicable rules of JAMS or NAF, wherever the arbitration is filed or, if the arbitrator is chosen by mutual agreement of the parties, the then-applicable rules of JAMS will apply unless the parties agree otherwise. All expedited procedures prescribed by the applicable

rules will apply. We agree to pay our respective arbitration costs, except as otherwise required by rules of JAMS or NAF, as applicable, but the arbitrator can apportion these costs as appropriate. The arbitrator's decision and award is final and binding, and judgment on the award may be entered in any court with jurisdiction.

If any party files a judicial or administrative action asserting a claim that is subject to arbitration and another party successfully stays such action or compels arbitration, the party filing that action must pay the other party's costs and expenses incurred in seeking such stay or compelling arbitration, including attorneys' fees.

If any portion of this Mandatory Arbitration of Disputes section is determined to be invalid or unenforceable, the remainder of the Section remains in full force and effect.

Miscellaneous. You may notify us by calling us at 1-888-211-4PCS, or use that number to get our current address for written notice. We may send you notice to your last known address in our invoicing records, or by calling leaving you a voice message on your wireless device or home phone. Properly addressed written notice is effective three days after deposit in the U.S. mail, postage prepaid. This Agreement is governed by and must be construed under federal law and the laws of the State of Kansas, without regard to choice of law principles. If either of us waives or fails to enforce any requirement under this Agreement in any one instance, that does not waive our right to later enforce that requirement. If any part of this Agreement is held invalid or unenforceable, the rest of this Agreement remains in full force and effect. Section headings are for descriptive, non-interpretive purposes only. You may not assign this Agreement to any other person or entity without our prior written approval. This Agreement (including any referenced documents and attachments) makes up the entire agreement between us and replaces all prior written or spoken agreements.

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Glossary and Index

Glossary

1X

One Times Radio Transmission Technology (the “one times” refers to the frequency spectrum). Supports Internet connections with data rates up to 153.6 kbps (downlink from the network) and 76.8 kbps (uplink to the network). Actual speed depends on the network conditions. Compare to 1xEV-DO.

1xEV-DO

A high-speed standard for cellular packet data communications. Supports Internet connections with data rates up to 2.4 Mbps (downlink from the network) and 153.6 kbps (uplink to the network). Average data rates are roughly 700 kbps (downlink from the network) and 153.6 kbps (uplink to the network). Actual speed depends on the network conditions. Compare to 1X.

bps

bits per second—The actual data speed over the transmission medium.

CDMA

Code Division Multiple Access—A wideband spread spectrum technique used in digital cellular, personal communications services, and other wireless networks. Wide channels (1.25 MHz) are obtained through spread spectrum transmissions, thus allowing many active users to share the same channel. Each user is assigned a unique digital code, which differentiates the individual conversations on the same channel.

dBm

decibels relative to 1 milliwatt

dormant

The network switches the Sprint PCS Vision data connection into dormant mode if there is no traffic on the connection for some time. When you resume data traffic, the high-speed data connection becomes active.

ESN

Electronic Serial Number—The unique serial number assigned to the modem for cellular network use. The ESN is on the label on the card, and is also displayed in the Device Info & Diagnostics window (page 64).

FCC

Federal Communications Commission—The U.S. federal agency that is responsible for interstate and foreign communications. The FCC regulates commercial and private radio spectrum management, sets rates for communications services, determines standards for equipment, and controls broadcast licensing. Consult www.fcc.gov.

IS

Interim Standard—After receiving industry consensus, the TIA forwards the standard to ANSI for approval.

kbps

kilobits per second—Actually 1000, not 1024, as used in computer memory size measurements of kilobytes.

LAN

Local Area Network

LED

Light Emitting Diode—A semiconductor diode that emits visible or infrared light.

Mbps

Megabits per second.

MHz

Mega-Hertz—One million cycles per second

PC Card

Add-in memory and communications cards for portable computers. PC Card is a trademark of the PCMCIA.

PCMCIA

Personal Computer Memory Card International Association—The organization that standardizes PC Cards.

PCS

Personal Communications Services—A cellular communication infrastructure.

roaming

A cellular subscriber is in an area where service is obtained from a cellular service provider other than Sprint.

Sprint PCS Connection Manager

Software that allows you to manage the Sprint PCS Connection Card's actions and monitor your connections.

Sprint PCS Vision

Sprint's advanced multimedia third generation services available on the network.

system tray

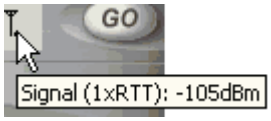
Usually located in the bottom right of the screen (near the clock). When Sprint PCS Connection Manager is running, it places an icon in this area, which you can use to monitor the connection state (page 38). If you right-click the icon, a shortcut menu is displayed (page 52):

TIA

Telecommunications Industry Association—A standards setting trade organization, whose members provide communications and information technology products, systems, distribution services and professional services in the United States and around the world. Consult www.tiaonline.org.

ToolTip

Text that displays when you position the mouse pointer over an area of the screen (for example, over an indicator).



VPN

Virtual Private Network

WAN

Wide Area Network

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